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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

MIND

A QUARTERLY REVIEW
OF
PSYCHOLOGY AND PHILOSOPHY.

EDITED BY
G. F. STOUT,
WITH THE CO-OPERATION OF PROFESSOR H. SIDGWICK, DR. E. CAIRD,
DR. VENN, PROFESSOR WARD AND PROFESSOR TITCHENER.

NEW SERIES.

VOL. IX.—1900.

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THOMAS NELSON AND SONS LTD. EDINBURGH
KRAUS REPRINT LTD.
Vaduz
1964

Printed in Germany
Lessing-Druckerei Wiesbaden

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—PERCEPTION OF CHANGE AND DURATION.

By The Editor.[1]

I have chosen as the subject of this address a topic which may appear to possess only a limited interest. The question with which I have to deal is as follows: When we perceive a temporal process as such, how far and in what sense is it necessary that representations of prior parts of the time-series should be present to our consciousness in the perception of succeeding parts? This seems at first sight to be simply a special question of Psychology. But a little reflexion will show that it has an important bearing on metaphysical theories which deserves the utmost attention. We find, for instance, in such writers as T. H. Green, a continual reiteration of the statement that the apprehension of succession cannot be itself succession—that in order to be aware of B as succeeding A we must have both A and B before consciousness at once. The necessity does indeed appear self-evident. But it is worth while to consider what is really involved in it, and in what way the actual process of consciousness satisfies this requirement which is imposed upon it *a priori*. I am acquainted with only one metaphysical writer who has answered these questions without ambiguity or haziness. Mr. Shadworth Hodgson, in the wonderfully acute and penetrating analysis contained in the second chapter of his *Metaphysic*, has defined his position on this point with refreshing clearness. He explicitly affirms that, in perceiving a time sequence, the presentations of prior stages of the sequence must persist in later stages—with a difference only in vividness and in time position. Save only in these respects, there is a sameness in point of kind between the presentations as they originally occur and as they are retained in memory. What gives the keenest interest to this statement is that it occurs in connexion with the most fundamental point of Mr. Hodgson's theory of the differentiation of Subject and Object. This theory seems to me to be the most noteworthy that has been as yet advanced to show how the distinction of Subject and Object may be supposed to arise out of the distinctionless unity of a more primitive experience. But I shall not in this address discuss it, except in so far as it may be bound up with the special problem of time perception, which we are immediately concerned with. If Mr. Hodgson's own answer to the question should turn out to be untenable, his general theory of the subject-object relation may be still defensible. But in any case, it will require restatement in a modified form. This connexion with a fundamental metaphysical problem may serve to give the theme which I have chosen something of that comprehensive interest which ought to attach to the topic of a Presidential Address.

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[1] Presidential Address delivered before the Aristotelian Society, Nov., 1899.

The problem before us has been much agitated of late in Germany. It will be convenient for us to begin by some account of the opposing views advocated by two of the most distinguished writers who have contributed to the discussion —Schumann and Meinong. Schumann is well known for his experimental investigation of the perception of small intervals of time, and Meinong is among the most penetrating, careful, and conscientious of analytic psychologists.

Schumann, in an article on the "Psychology of Time-perception,"[1] criticises very sharply the view that, in order to apprehend either time-sequence or relations of intensity or quality between successive sensation, we must necessarily retain in consciousness a group of memory images. He discusses first the case of comparison in respect of intensity or quality. Suppose that we are comparing two sounds heard in succession, with a view to determining which is the louder. First one sound is heard, and then, after an interval of two or three seconds, the other; and on this follows the judgment, louder, less loud, or equally loud. This judgment is dependent only on the relative—not on the absolute—intensity of the sounds. It is determined by the conjoint operation of both of them, not by either, apart from the other. But though the judgment presupposes both sounds as its conditions, it does not necessarily contain both as its constituents.

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[1] Bd. xvii., p. 106.

Of course at the moment when the second sound occurs, it must occur in connexion with some after-effect of the first. But this after-effect need not be a memory image. It is sufficient to assume a physiological or psychical disposition. And Schumann maintains that as a matter of fact this is all that experience guarantees. He says: "In comparing two notes, which follow one another at an interval of, say, two seconds, I am in general unable to detect the slightest trace of the first sensation when the second occurs. Other gentlemen have said the same thing in answer to my question. Yet others were not quite confident: but even they could not directly affirm that the prior sensation was actually present. When I observed sensations which followed each other very rapidly, at intervals of $\frac{1}{5}$ of a second for example, I could not frame any distinct judgment on the matter; but at any rate I could not ascertain any persistence of the first sensation in consciousness." Schumann concludes that for psychical elements to form a whole, they need not be presented together. To "form a single whole" means to act as a whole, to operate as a whole in determining reproduction, judgment, and feeling. The effects of the whole are not equal to the sum of the effects of its elements: the whole complex has its own characteristic effects which depend only on the relations of its constituents. But there is no reason why such effects should not be produced by a complex of experiences which follow each other in time.

Schumann next turns to temporal perception in the strict sense, in which succession and duration are expressly attended to. He takes first the case of a note heard for one second. According to the memory-image theory, in each successive moment during which the note endures there is a sensational experience, and each sensational experience persists in the form of a memory image. Thus the note gradually spreads itself out as time goes on. One layer of memory imagery superposes itself on another, so as to form a kind of duration block, and this is what is present to consciousness when we perceive a note of one second's duration. Schumann denies that he can detect anything of the sort by introspection. "For me," he says, "a tone-sensation of one second's duration is a unity not really capable of further division, a unity which can give rise to a plurality of judgments—judgments referring to intensity, pitch, timbre and temporal duration. If we are able to form an immediate judgment as to whether a given tone is of short or long duration, the simplest assumption is that a tone which lasts a short time for that very reason affects us differently from a tone which lasts a longer time." The case is analogous for succession. The successive tones have a combined effect which differs according to the length of the interval between them. This is the deliberate and decided deliverance of a skilled psychologist who has been experimenting for years on the perception of duration and succession. So far as I am personally concerned, I can only say that my experience agrees exactly with Schumann's. When I am aware of a serial succession of presentations as such, I do not apprehend the memory images of by-gone parts of the series along with that which is present at any given moment.

The other side of the question is argued by Prof. Meinong in a long and elaborate article in a recent number of the *Zeitschrift für Psychologie.*[1] But his defence is perhaps more damaging to the theory he maintains than Schumann's attack. For he admits most explicitly that introspective evidence yields him no support. He takes such instances as the apprehension of a melody, or of the movement of a body in space. The melody is not presented until the last note of it is heard. But in hearing the last note we utterly fail to detect by introspection the simultaneous presence of the procession of preceding notes in the form of memory images. Similarly in apprehending the movement of a body from position A to position B, we have not apprehended the movement from A to B until the body has reached B. But at the moment it reaches B we have not before consciousness the memory images of the body in the various successive positions which it has successively occupied on the path traversed by it. It is worth noticing that if this were necessary the entire path would have to be presented as covered by the body continuously. If the question is to be solved by a direct appeal to experience the memory-image theory has not a leg to stand on. It is true of course that a moving body often leaves behind it after-sensations, because impressions on the retina persist for some time after they are produced. If you whirl a burning stick round, you see a circle of brightness. But the circle of brightness appears as a circle. It does not constitute the presentation of the movement of the stick. On the contrary, if you only see the circle you don't see the movement of the stick at all.

If, then, the memory images of previous stages of a successive process cannot be detected by introspection, why not simply say that they are not in consciousness at all? Prof. Meinong replies that they are there because they *must* be there. His argument is in brief as follows: In order to apprehend a relation, or the form of combination characteristic of a complex whole, we must simultaneously apprehend the terms related, or the constituent parts of the whole. This seems obvious *primâ facie.* And we may admit the truth of the contention if it only means that we must have *some sort* of apprehension of the terms related in order to apprehend a relation. But the real question is whether all the related terms must appear in the form of sensorial images, either of perception or of memory? And this question must be answered in the negative. There are two kinds of apprehension—the determinate and the indeterminate. The whole process of consciousness, so far as it has continuity of interest, consists in passing, or endeavouring to pass, from indeterminate to determinate apprehension. Whenever we are aware of an object of any kind, what is definitely presented at any moment is only part of the whole which we perceive or think of. When I catch sight of an orange, all that is present to consciousness, in the way of sensation or sensorial imagery, may be only the yellow colour and a characteristic shape and texture. But the colour, shape, and texture, have for me a certain significance. They mean an orange. The various detailed experiences which I have had in the past in connexion with oranges profoundly modify my present consciousness, though they do not reappear in it as distinct experiences—as memory images. Collectively they give rise to a modification of conscious content, which functions for certain purposes instead of the detailed experience. They make possible the indeterminate apprehension of the orange as a certain specific kind of whole, without discrimination of more than a few of its characteristic constituents. If I pick the orange up and eat it, I progressively transform my indeterminate awareness of it into determinate awareness. I recognise that I am apprehending the details of the same object which I had previously apprehended indistinctly. My implicit apprehension becomes explicit. It is easy to apply these statements to the special case in which we apprehend a succession as such. At the end of a melody the last note alone may be in consciousness, and yet we may cognise the melody as a whole. The preceding notes in disappearing have left traces behind them in the way of psychical or physiological dispositions or both. These traces are not isolated ; they combine in a cumulative disposition which modifies in a characteristic way the content of consciousness when the last note is heard. But this, as Meinong rightly urges, is not enough. Not *any* modification of consciousness will serve our purpose ; and to say that the modification is produced by the preceding notes is not a sufficient explanation. The effect produced by the preceding notes must be capable of functioning instead of them for certain purposes. It must be capable of standing for them. In particular, it must be possible to recognise the equivalence. If, after the last note, we begin to hear it anew or to reproduce it in memory, we must be able to recognise the successive sounds as successive determinations in detail of what we had previously before our minds as an internally indeterminate total. I say *internally* indeterminate, because the whole must be so far determinate as to have for us a specific character by which it is distinguishable from other wholes. I shall say no more on this question of indeterminate or implicit apprehension. Under one guise or another I am always talking about it. Indeed, I find it impossible to stir a step in psychology without it —if I am not to tell deliberate lies.

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[1] Bd. xxi., p. 182.

However, what I wish to bring out in this address is not the truth of my explanation, but the impossibility of the only alternative which has been explicitly put forward. Is it really possible for these hypothetic memory images, which Meinong and others talked of, to be present in consciousness, although we cannot ascertain their presence by any direct appeal to experience? It may be said that there are such things as subconscious presentations. This, I should be the last to deny. But the best evidence we have for the existence of such subconscious contents is that when we do attend to them we recognise their previous existence anterior to our distinguishing them. We are aware that we not wholly create them in act of noticing them. Now, in the present case, the reverse is the fact. However strenuously we may endeavour to detect the presence in consciousness of the prior notes of a melody at its close, or of the prior positions of a moving body when we are watching or mentally representing its motion, we fail to do so. It is not enough to say that Introspection *fails* to discover the presence of these alleged presentations. Beside a mere failure to discover their presence, there is positive success in discovering their absence ; what we really find is that they aren't there.

Again the whole *a priori* argument for the existence of these presentations is based on the assumption that they are essential constituents of the object attended to. The argument is to the effect that in order to apprehend a relation we must have the related terms simultaneously before consciousness as distinct elements of the total object apprehended. But this requirement can only be satisfied if the related terms are attended to, if they are noticed and distinguished. Thus the very same argument which is used to prove that these presentations must exist would prove, if it were valid, that they cannot be subconscious. It would prove that they must be obvious and undeniable data of Introspection. Yet Schumann, Meinong, and others, including myself, cannot detect their presence at all, and I agree with Schumann and Stern in being convinced that I can detect their absence.

II.—CRITERIA OF TRUTH AND ERROR.

By Henry Sidgwick.

The present essay is a partial discussion of what I regard as the central problem of epistemology. In order that its drift may be clearly seen from the outset, I will begin by explaining briefly—without argument—my view of Philosophy, Epistemology and their relation. I take it to be the business of Philosophy—in Mr. Spencer's words—to "unify" or systematise as completely as possible our common thought, which it finds partially systematised in a number of different sciences and studies. Now before attempting this unification, we must wish to be somehow assured that the thoughts or beliefs which we seek to systematise completely are true and valid. This is obvious; no rational being with his eyes open would try to work up a mixture of truth and error into a coherent system, without some attempt to eliminate the error.

It is *primâ facie* necessary, therefore, as a preliminary to the task of bringing into—or exhibiting in—coherent relation the different bodies of systematic thought which furnish the matter for Philosophy, to have some criteria for distinguishing truth from error. It may, however, be thought that this need—though undeniably urgent in the case of such studies as, *e.g.*, Politics and Theology—will not be practically presented, so long as the philosopher's work is confined to the positive sciences. The prevalence of error in Politics is kept prominently before our minds by the system of party government; and the effective working of this system almost requires the conviction on either side that the political programme of the other party—unhappily often in a majority—is a tissue of errors. So again in Theology, it is the established belief of average members of any religious denomination that the whole world outside the pale of the denomination lies in the darkness of error on some fundamental points; and even within the pale, the wide-spread existence of right-hand backslidings and left-hand defections from the standard of orthodoxy is continually attracting the attention of the newspapers. But no doubt, in elementary study of the positive sciences, error is commonly only brought before our minds in the strictly limited form of slight discrepancy in the results of observation, as something reducible to a minimum by an application of the theory of probabilities.

Still the danger of error is only thus kept in the background, so long as we confine our attention to the more settled parts of the established sciences in their present condition. Around and beneath these more settled portions, in the region where knowledge is growing in range or depth, and the human intellect endeavouring to solve new questions, or penetrate to a more solid basis of principles, we find continually conflict and controversy as to the truth of new conclusions—which appear established and demonstrated to the adventurous minds that have worked them out—as to the legitimacy of new hypotheses, and the validity of new methods; and wherever we find such conflict and controversy, there must be error on one side or the other, or possibly on both.

And the fact of error is still more prominently brought before our minds when we turn from the present to the past, and retrace the history of the now established sciences: since we find that in almost all cases human knowledge has progressed not merely by adding newly ascertained facts to facts previously ascertained, but also, to an important extent, by questioning and correcting or discarding beliefs—often whole systems of connected beliefs—previously held on insufficient grounds. In this way, convinced by Copernicus, the human mind dropped the Ptolemaic astronomy and reconstructed its view of the planetary and celestial motions on the heliocentric hypothesis; convinced by Galileo, it discarded the fundamental errors of Aristotle's view of matter; convinced by Lavoisier, it rectified its conception of chemical elements, and relegated the remarkable substance "phlogiston"—that had enjoyed an imaginary existence for something like a century—to the limbo of recognised non-entities; convinced by Darwin, it abandoned its fundamental notion of the fixity of organic species, and accepted a revolution in morphological method.

Now the student of science is ordinarily not much disturbed by this evidence that his class forms no exception to Pope's oft quoted characterisation of man as "sole judge of truth, in endless error hurled". When, in the progress of thought, any prevalent scientific belief is recognised as erroneous, he simply discards this—with more or less endeavour to ascertain the particular causes of error and guard against their recurrence—and, on the whole, continues his natural processes of acquiring, evolving, systematising beliefs with undiminished confidence. But to the philosophical mind the ascertained erroneousness of some beliefs is apt to suggest the possible erroneousness of all. If a belief that I once held to be certainly true has turned out to be false, what guarantees me against a similar discovery in respect of any other belief which I am now holding to be true? The mind is thus overspread with a general and sweeping distrust of the processes of ordinary thinking, which is not exactly to be called philosophical scepticism—since this usually presents itself as systematically deduced from premises accepted by philosophers—but is rather to be conceived as the naïve untechnical scepticism of a philosophic mind, which may turn out to be (as in the classical case of Descartes) a mere stage in its progress toward a dogmatic system. At any rate, it is the removal of this philosophic uncertainty—in respect of beliefs that, in ordinary thought, are commonly assumed to be true—that I regard as the primary aim of Epistemology.

I have said that this task lies in the way of philosophy; but, I ought to add, that it does not appear to lie in the way of all philosophers. Some of those who have devoted their minds to the solution of philosophical problems seem hardly to have contemplated error except as a kind of misconduct into which the rest of the human race—and especially other philosophers—are inexcusably prone to fall. It is, indeed, a common experience of mankind in all departments of theory and practice that the liability to error is more equally distributed among human beings than the consciousness of such liability. But the variations of self-confidence that we find among persons who have devoted themselves to the business of philosophy are perhaps less than elsewhere to be attributed to differences of individual temperament: it would rather seem that in the social movement of philosophic thought there are general ebbs and flows; an age of confidence followed by an age of diffidence. It is partly the fact that the philosophic mind of the modern world is now rather at the ebb, with its constructive impulses comparatively feeble, which explains the development and the prominence that the epistemological aspect or function of philosophy is now receiving; and has accordingly led to the composition of the present paper.

I will begin by somewhat limiting my subject for clearness of discussion. I have contrasted ordinary certitude with philosophic doubt; but even the plain man is not always cocksure. Sometimes he even doubts and suspends his judgment; but even when he believes and positively affirms, many of his beliefs and affirmations—most of those relating to the future—are intended to be taken as not certain but probable. By a 'probable' belief I do not now mean a belief relating to probabilities; for this may be as certain as any other—as for instance the belief that the chances are even that a penny I toss will come down tails. The theory of chances has been described as a method of extracting knowledge out of ignorance; it is undoubtedly a method of converting probable judgments into certain ones—though the certainty is of a peculiar kind, and its verification presents a special epistemological problem of some interest. But the probable beliefs that I now wish to distinguish from certain ones are beliefs which involve no attempt at a quantitative estimate of 'amount of probability'; and they are often in form of expression indistinguishable from beliefs held with certitude:—thus when a man affirms in conversation that the new plan of international arbitration will have no practical effect, or that the Liberal Party must return to power after the next general election; it will be generally understood that though the speaker may appear to express certitude on these points, he only means that the events are extremely probable. I draw attention to this ambiguity of expression, because it facilitates an indeterminateness of thought, of which we have to take note in applying the distinction that I now draw between "certain" and "probable" beliefs. Often in ordinary thought we do not know whether we are *sure* of what we affirm unless we are led to reflect on the point; sometimes we do not know after reflection; sometimes we are conscious of elements of uncertainty which we decide to disregard, and then we say that we are "morally certain"—meaning that we should unhesitatingly act as if we were certain. This last state of mind I shall consider hereafter; at present I wish to confine attention to beliefs which present themselves in ordinary thought as certain without qualification. Of these I may roughly distinguish three chief classes: (1) particular beliefs about the present and recent past of the changing world of which we are part; (2) general beliefs more or less systematised in the sciences, especially the exact sciences, which we may happen to know; (3) beliefs that *primâ facie* relate not to mere matter of fact but to moral or æsthetic valuation—to what we ought to do as individuals, or what government ought to do, or what is good and bad in manners, literature and art. Of course in these latter regions of belief any educated person is aware that there is much doubt and controversy; still there are plenty of propositions in each of the regions indicated, which it would seem in ordinary thought as absurd to dispute or qualify as propositions with regard to the most familiar matters of fact. When Charles Lamb took a candle to examine the cerebral bumps of the soap-boiler who affirmed that Shakespeare was a first-rate dramatic writer, it was, I suppose, because the irrefragable certainty of the proposition seemed to render its express statement absurdly superfluous.

Concentrating attention, then, on beliefs that in ordinary thought are certain in the sense explained, let us—with a view to a necessary limitation of our inquiry—take a second distinction. Reflecting upon the beliefs of the truth of which I have no doubt, I perceive that some of them (*e.g.*, the propositions of Euclid) have only derivative or dependent certainty—my belief in them rests on my belief in some other proposition or propositions; while in other cases (*e.g.*, most of the axioms of Euclid) my certitude may be distinguished as primary or independent. In the instance given —as I have personally followed the reasonings of Euclid and satisfied myself as to their cogency—I might employ a clearer antithesis, and say that some of my geometrical beliefs have "intuitive" and others demonstrative certainty. But this antithesis is too narrow for my present purpose. For, firstly, I do not profess to have intuitive certainty with regard to all beliefs for which proof does not seem to be required. I am certain that I read through the three first pages of this essay before I sat down to write the fourth half an hour ago; but it would be contrary to usage to call this certainty "intuitive," though the belief does not present itself to me as requiring proof. Secondly, I wish to include among beliefs with derivative certainty that comparatively large body of scientific conclusions which I believe to have been scientifically proved, though not to me, and which I accordingly accept on the authority of one or more other persons. Of course, in a wide sense of the word, a statement of my grounds for trusting any conclusion arrived at by some other mind might be called my "proof" of the proposition; but at any rate it would not be scientific demonstration, and it would be odd to call the certainty of any such belief to me "demonstrative certainty". For simplicity, let us here provisionally disregard any doubts of the authority of others as others: then the distinction will be between beliefs which requiring proof seem to have obtained it, and beliefs which do not seem to require it.

Now the errors due to taking invalid proof for valid are the special subject of investigation in the science of Logic; and it is widely held that the labours of logicians have provided adequate criteria for excluding them: that they have discovered by analysis certain forms of reasoning into one or other of which any cogent inference may be thrown, and by the application of which the validity or invalidity of any process of inference may be made manifest. Suppose we grant this: then our epistemological problem is solved in respect of dependent or inferential beliefs—so far as the process of inference by which they are reached is capable of being thrown into a logically cogent form. That is, I can in this way obtain assurance that all my apparently proved beliefs are true if the premises from which they are inferred are true: and if these premises are themselves arrived at by inference I can similarly apply the test to the proof of them—and so on till we come to the ultimate premises. I propose to assume for the purpose of this paper that Logic has done satisfactorily what it commonly professes to have done; and that our task, accordingly, may be limited to the verification of ultimate premises, or beliefs that are in ordinary thought accepted as not requiring proof.

The importance of the task thus limited has been fully recognised by some philosophers. J. S. Mill, indeed, seems disposed to bestow on this inquiry the venerable name of "Metaphysics". "The grand question," he says, "of what is called Metaphysics is 'what are the propositions that may reasonably be received without proof?'" And it is, I suppose, to propositions of this kind that Descartes' famous criterion—expressed in the formula "that all the things which we very clearly and distinctly conceive are true"—was primarily designed to apply.

On the other hand, it seems to be also primarily to this class of propositions that Kant's unqualified rejection of "a general criterion of truth" applies[1]—since Kant regards Logic as having adequately furnished criteria of formal truth, and therefore of all kinds of inference. In fact Kant's condemnation of the task on which I am engaged is so strong and sweeping that I think it well to examine his arguments before proceeding further. I give it somewhat abbreviated.

"If truth consists—as is admitted—in the agreement of a cognition with its object, that object must, by the true cognition, be distinguished from some other object or objects. Now it is implied in the idea of a general criterion of truth that it is valid with regard to every kind of cognition, whatever the objects cognised may be. But then, as such a criterion must abstract from the particular contents of particular cognitions, whereas, as we have seen, truth concerns those very contents, it is impossible and absurd to suppose that such a general criterion can give us a sign of the truth of cognition in respect of its content or matter. Therefore a sufficient and at the same time general criterion of truth cannot possibly be found."

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[1] See section 3 of the *Introduction to Transcendental Logic* (*kritik der reinen Vernunft*. Hart., p. 86).

In examining this passage I may begin by pointing out that Kant's view of truth as 'consisting in the agreement of cognition with its object'—which he takes as universally accepted—cannot be applied to all propositions without a difficult extension of the notion of "object" (Gegenstand). This will appear, if we try to apply it to strictly hypothetical propositions, or to categorical propositions of ethical import.

To this consideration I shall hereafter return; meanwhile, in discussing Kant's definition, I shall assume for clearness, that we are dealing with judgments that are intended to represent some fact, past, present or future, particular or general. Thus restricted, Kant's argument is simple and at first sight plausible; but I think it contains a *petitio principii.* For it proceeds on the assumption that true cognitions cannot as such have any *common* characteristic, except that of agreeing with their objects; but that it is surely to assume the very point in question. To illustrate this, let us take Descartes' criterion before referred to, as the first that comes to hand in the history of modern philosophy. How can the diversity of the objects of cognition be a logical ground for denying that "what is clearly and distinctly conceived" is necessarily true?—since the distinction between clear and obscure, and between distinct and confused conception, does not become less applicable when we pass from one kind of object to another.

It may be answered on Kant's behalf that "clearness and distinctness of conception" belong to the form of thought not to its matter; that clearness and distinctness of conception may prevent us from attributing to any subject an incompatible predicate, but not from attributing a predicate that though compatible does not actually belong to the subject. But it is just this dogmatic separation of form from matter that I regard as an unproved assumption. It is surely conceivable that the relation of the knowing mind to knowable things—to the whole realm of possible objects of knowledge—is such that, whenever any matter of thought is clearly and distinctly conceived, the immediate judgments which the mind unhesitatingly affirms with regard to it are always true. As will presently appear, I do not hold a brief for the Cartesian criterion; on the contrary, I have no doubt whatever that the Cartesian criterion taken by itself is inadequate. All I urge is that its inadequacy is not established by Kant's summary argument.

Let us turn to consider Kant's sweeping negation in relation to a different criterion, laid down by Empiricists.

I take the principle of Empiricism, as an epistemological doctrine, to be that the ultimately valid premises of all scientific reasonings are cognitions of particular facts; all the generalisations of science being held to be obtained from these particular cognitions by induction, and to depend upon these for their validity. I do not accept this principle; I think it impossible to establish the general truths of the accepted sciences by processes of cogent inference on the basis of merely particular premises; and I think the chief service that J. S. Mill rendered to philosophy, by his elaborate attempt to perform this task, was to make this impossibility as clear as day. But I wish now to avoid this controversy; and, in order to avoid it, I shall take the Empirical criterion as relating only to particular cognitions; leaving open the question how far we also require universal premises in the construction of science.

The criterion is briefly discussed by Mill, *Logic*, book iv., chapter i., §§ 1, 2. It being understood that the validity of the general truths of the sciences depends on the correctness of induction from correct observation of particular facts, the question is what guarantee there is of the correctness of the observations?—in Mill's words "we have to consider what is needful in order that the fact supposed to be observed may safely be received as true". The answer is "in its first aspect," very simple. "The sole condition is that what is supposed to have been observed shall really have been observed; that it be an observation—not an inference." The fulfilment, indeed, of this sole and simple condition is not—as Mill goes on to explain—so easy as it may appear; "for in almost every act of our perceiving faculties, observation and inference are intimately blended; what we are said to observe is usually a compound result of which one-tenth may be observation and nine-tenths inference". *E.g.*, I affirm that I saw my brother at a certain hour this morning; this would commonly be said to be a fact known through the direct testimony of my senses. But the truth, Mill explains, is far otherwise; for I might have had visual sensations so similar as to be indistinguishable from those I actually had without my brother being there; I might have seen some one very like him, or it might have been a dream, or a waking hallucination; and if I had the ordinary evidence that my brother was dead, or in India, I should probably adopt one or other of these suppositions without hesitation. Now, obviously, "if any of these suppositions had been true, the affirmation that I saw my brother would have been erroneous"; but this does not, in Mill's view, invalidate the Empirical criterion, for "whatever was matter of direct perception, namely, the visual sensations, would have been real"; my apparent cognition of this reality (he tacitly assumes) would have been a true and valid cognition. In short, only separate observation from inference and observation—or apparent knowledge obtained through observation—is absolutely valid and trustworthy; the idea that these are "errors of sense" is itself a vulgar error, or at least a loose thought or phrase; there are no errors in direct sense-perception, but only erroneous inferences from sense.

Now I shall presently consider how far this criterion, taken in any sense in which it would be available for its purpose, is completely trustworthy. But, however, that may be, it seems to me that Kant's sweeping negative argument—which we are now examining—has really no force against its validity. No doubt, according to Kant's general view of the form and matter of thought, this criterion, like the other, relates primarily to the form; for it rests on the distinction between two different functions of the knowing mind—Observation or Perception and Inference. But I see no reason to infer that it is *therefore* incapable of guaranteeing the material truth of Empirical cognition; or that the relation of the knowable world to the knowing mind cannot possibly be what Empiricism affirms it to be.

If now we contemplate together the two criteria that have been examined—the Cartesian and the Empirical—it is evident that, at least in its primary intention, neither alone covers the whole ground of the premises for which verification is *primâ facie* required. The Empirical criterion only verifies particular premises, and the Cartesian appears to be applied by its author primarily to universals—to what is "clearly and distinctly conceived by the pure understanding".

This leads me to suggest that Kant has perhaps taken too strictly the demand for a "universal" (allgemein) criterion of truth. He has understood it to be a demand for some ascertainable characteristic—other than truth—always found to belong to valid cognitions, and never found in invalid ones. And no doubt a criterion of this scope is what any philosopher would like to get; but any one who has realised the slow, prolonged, tortuous process by which the human intellect has attained such truth as it has now got, will thankfully accept something less complete. If (*e.g.*) any epistemological doctrine offers, among the commonly accepted premises of scientific reasoning, to mark out a substantial portion to which the stamp of philosophic certainty may be affixed; or if, again, it offers to cut out a class of invalid and untrustworthy affirmations, to warn us off a region in which our natural impulse to affirm or believe must, if indulged, produce mere illusion and semblance of knowledge —then, if either offer is made good, we shall gratefully accept it as a philosophic gain.

Now it is remarkable that in both these ways, but especially in the latter way, Kant undoubtedly does offer general criteria of truth which, if valid, are of immense importance. Indeed it is the very aim and purpose of his *Critical Philosophy*—as its name indicates—to establish such criteria: it is its aim, by a critical examination of our faculties of knowledge, to cut off and stamp as manifest illusion the whole mass of beliefs and affirmations with regard to "things in themselves" which common sense naïvely makes, and which—or some of which—previous dogmatic philosophers had accepted as valid. At the same time, by the same critical analysis, Kant seeks to stamp with philosophic precision and certitude the fundamental principles of physical knowledge—as that every event has a cause, and the quantum of substance in the physical world is unchangeable—while restricting the application of these principles to phenomena.

And here I would remark that the main importance for philosophy of the epistemological question brought into prominence by Kantian Criticism—the question as to the Limits of human knowledge—seems to depend upon its connexion with the question with which we are now concerned,—the inquiry after criteria. For our interest in Kant's inquiry into the limits of knowledge certainly depends on the fact that the limits which the critical thinker aims at establishing have been actually transgressed by other thinkers. It therefore implies an actual claim to validity on behalf of assertions transgressing the limits which the criticist denies: so that he may be viewed as propounding in respect of these assertions a criterion for distinguishing truth from error, which stamps them as error. It is true that as regards a part of the assertions he discusses—*e.g.*, as to the infinity or finiteness of Space and time, or the infinite or finite divisibility of matter—the criticist finds a controversy going on which implies error on one side or the other: but by his criterion he decides that there is error on both sides—, the "antinomy" which leads to controversy in each case arising from a fundamental misconception common to both sides.

It is no part of my plan to criticise Kant's epistemology: what I am rather concerned to point out is that his system is embarrassed in a quite special manner by the difficulty that besets every constructive epistemology—the difficulty of finding a satisfactory answer to the question, 'Quis custodiet custodem?' For the claim of Criticism is to establish the limits of human knowledge by an examination of man's faculties of knowledge: but the proposition that we have faculties of cognition so and so constituted can only be an inference from the proposition that we have such and such valid cognitions. It would thus seem that the Critical procedure must presuppose that truth adequately distinguished from error has already been certainly obtained in some departments. And in fact this presupposition is frankly made by Kant so far as Mathematics and Physical Science are concerned. He expressly takes their validity as a *datum*. Mathematics, he tells us (*Proleg.*, § 40), "rests on its own evidence," and Physical Science "on experience and its thorough-going confirmation": neither study stands in need of Criticism "for its own safety and certainty". And he similarly assumes the validity and completeness of Formal Logic as the starting-point for his *Transcendental Analytic.*

If, therefore, we ask for a criterion of truth and error in Mathematical and Logical Judgments—and error undeniably occurs in both—or in the Empirical cognitions which confirm the general propositions of physical science, we cannot obtain this from Kantian criticism without involving the latter in a *circulus in probando.* We are therefore *primâ facie* thrown back in the former case on the Cartesian or some similar criterion for guaranteeing "truths of reason," in the latter case on some Empirical criterion for guaranteeing "truths of fact".

I turn, therefore, to examine more closely these two criteria. With regard to the former, however, it may be thought that such examination is now superfluous, since the historic failure of Descartes' attempt to extend the evidence of mathematics to his physical and metaphysical principles has sufficiently shown its invalidity. "*Securus judicat orbis terrarum*"; and the inadequacy of the Cartesian criterion may be thought to be now "*res judicata*". On the other hand, Mr. Spencer has in recent times put forward a criterion which, so far as it relates to universal cognitions, has at least a close affinity to the Cartesian. I propose, therefore, to begin by some consideration of the earlier proposition.

I may begin by saying that Descartes' statement of his criterion hardly satisfies his own requirements, *i.e.*, it is not quite clear what he means by the "clearness" of a notion. I think that it will render Descartes' meaning with sufficient precision to drop the word "clear," keeping "distinct" (which, he says, involves "clear"), and explain a distinct notion of any object to be one that is not liable to be confounded with that of any different object—"object" being taken to denote any distinguishable element or aspect of Being, in the sense in which Descartes uses 'Being' as a wider term than Existence, and includes under it the objects of mathematical thought.

One further modification of Descartes' statement seems expedient: Descartes applies the term "clear" (or "distinct") "conception" to the cognition of the connexion of subject and predicate in a true judgment, as well as to the notions taken separately. But it seems desirable to make more explicit the distinction between the two; since the indistinctness that causes error may be held to lie not in the latter but in the former.

We may state our question, then, as follows: "Is error in universal judgments certainly excluded by a distinct conception of the subject and predicate of the judgment and of their connexion?" But this at once suggests a second question: "Why does Descartes hold it to be excluded?" And here it is noteworthy that he nowhere affirms the infallibility of his criterion to be intuitively known. He seems to have three ways of establishing it: (1) He presents it as implied in the certainty of his conscious existence (*Meth.*, iv., and *Med.*, iii.); (2) he presents it as a deduction from the veracity of God (*Princ.*, xxix., xxx.); (3) he rests it on an appeal to the experience of his readers (*Réponses aux II$^{\text{des}}$ Objections*, Demande, vii.). The first two procedures appear to me obviously unsatisfactory[1]; I therefore propose only to consider the Empirical basis of the criterion.

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[1] The certainty of the proposition 'sum cogitans' surely does not carry with it the certainty of the only discoverable general reason for accepting it as certain; and—as the veracity of God has to be demonstrated—the second procedure involves Descartes in a logical circle as has often been observed.

Let us ask, then, whether, when error occurs and we are convinced of it, in mathematical or logical assertions, experience shows it to have occurred through want of distinctness in our conceptions? Now—excluding the case of reasoning in which symbols are used more or less mechanically, so that error when it occurs is usually due to a casual lapse of memory—I find that Descartes' view is confirmed by my experience in a certain sense; but not in a sense which tends to establish the adequacy of his criterion. That is, the discovery of any such error seems always to involve the discovery of a past confusion of thought; but, in some cases at least, *before* the discovery of the error the thought *appeared* to be quite free from confusion, so that the most conscientious application of the criterion would not have saved me from error. I suppose the experience of others to be similar. Let me take as an illustration a mathematical error of an eminent thinker which I transiently shared.

In an attack on Metageometry (*Metaph.*, book ii., chapter ii.) Lotze, discussing Helmholtz's fiction of an intelligent being whose life and experience are confined to the surface of a sphere, remarks that such a being, if it moved in a small circle of the sphere, would find that "the meridians known to it from other experiences make smaller angles with its path on the side" towards the pole of the circle, "and greater on the opposite side". On first reading this sentence I thought I could see clearly the fact as stated; then, on further consideration, I saw that the meridians must cut the small circle at right angles; then—reflecting on my momentary error in order to see how I had been misled—I perceived that the object I had been contemplating in idea was not a true spherical surface, but a confused mixture or *tertium quid* between such a surface and its projection on a plane. When discovered, the confusion seemed very palpable; but the opposite view had seemed clear and distinct when I agreed with Lotze's assertion, and I could not doubt that it had seemed so to Lotze himself.

I do not therefore think the Cartesian criterion useless; on the contrary, I believe that I have actually saved myself from error by applying it. But the experience to which Descartes appeals seems to me to show that judgments, universal and particular, often present themselves with an illusory semblance of distinct conception or perception which cannot be stripped from them by direct reflexion; though it often vanishes at once when the judgment is otherwise demonstrated to be erroneous. In the case of perception Descartes expressly recognises this; he speaks (*Med.*, iii.)

of the existence of things outside him exactly like his ideas as something which "I thought I perceived very clearly, though in reality I did not perceive it all". In this case, however, the Empirical criterion offers a guarantee against error by the rigorous separation of observation from inference. This guarantee I will now proceed to examine.

I may begin by remarking a curious interchange of *rôles* between Rationalism and Empiricism as regards the evidence claimed for their respective criteria. While the Rationalist's criterion is partly supported, as we have seen, on an appeal to experience, the validity of the Empirical criterion appears to be treated as self-evident. At least this seems to be implied in Mill's language before referred to; where, after pointing out various possible sources of error in the affirmation that "I saw my brother this morning," he says that if any of these possibilities had been realised, "the affirmation that I saw my brother would have been erroneous: but *whatever was matter of direct perception, namely the visual sensations, would have been real*". For his argument requires us to understand the last sentence as meaning not merely that there would have been sensations for me to perceive, but that my perception of them would certainly have been free from error: and as no empirical proof is offered of this last proposition, it seems to have been regarded as not requiring proof. But—even if we assume, to limit the discussion, that a man cannot, strictly speaking, observe anything except his own states of consciousness—it still seems paradoxical to affirm that the elimination of all inference from such observation would leave a residuum of certainly true cognition: considering the numerous philosophical disputes that have arisen from the conflicting views taken by different thinkers of psychical experiences supposed to be similar. Take (*e.g.*) the controversy since Hume about the impossibility of finding a self in the stream of psychical experience, or that as to the consciousness of free will, or the disinterestedness of moral choice, or the feeling-tone of desire; surely in view of these and other controversies it would be extraordinarily rash to claim freedom from error for our cognitions of psychical fact, let them be never so rigorously purged of inference.

The truth seems to be that the indubitable certainty of the judgment "I am conscious" has been rather hastily extended by Empiricists to judgments affirming that my present consciousness is such and such. But these latter judgments necessarily involve an *implicit* comparison and classification of the present consciousness with elements of past conscious experience recalled in memory: and the implied classification may obviously be erroneous either through inaccuracy of memory or a mistake in the comparative judgment. And the risk of error cannot well be avoided by eliminating along with inference this implicit classification: for the psychical fact observed cannot be distinctly thought at all without it: if we rigorously purge it away, there will be nothing left save the cognition of self and of we cannot say what psychical fact. Nay it is doubtful whether even this much will be left for the Empiricist's observation: since he may share Hume's inability to find a self in the stream of psychical experience, or to maintain a clear distinction between psychical and material fact. Thus the Empiricist criterion, if extended to purge away comparison as well as inference, may leave us nothing free from error but the bare affirmation of Fact not further definable.

Here again I am far from denying the value of the Empirical criterion. I have no doubt of the importance of distinguishing the inferential element in our apparently immediate judgments as far as we can, with a view to the elimination of error. Only the assertion that we can by this procedure obtain a residuum of certainly true cognition seems to me neither self-evident nor confirmed by experience.

I pass to examine the criterion propounded by Mr. Herbert Spencer in his *Principles of Psychology* (part vii., ch. ix.-xii.): which, in his view is applicable equally to particular and universal cognitions. It is there laid down that "the inconceivableness of its negation is that which shows a cognition to possess the highest rank—is the criterion by which its unsurpassable validity is known". . . . "If the negation of a proposition is inconceivable"—*i.e.*, "if its terms cannot by any effort be brought before consciousness in that relation which the proposition asserts between them"—we "have the highest possible logical justification for holding it to be unquestionable." This is, in Mr. Spencer's view, the Universal Postulate, on the validity of which the validity of all reasoning depends.

Before we examine the validity of the criterion, the meaning of the term "inconceivable" requires some discussion. In replying to a criticism by J. S. Mill, Mr. Spencer—while recognising that "inconceivable" is sometimes loosely used in the sense of "incredible"—repudiates this meaning for his own use. But I agree with Mill in regarding this repudiation as hasty, so far as the criterion is applied to propositions that represent particular facts—

e.g., "I feel cold". For in most cases in which such a statement is made it would not be true to say "I cannot conceive myself not feeling cold," since only very intense sensation excludes the imagination or conception of a feeling opposite in quality. We might, no doubt, say "I cannot conceive that I am not feeling cold": but the form of this sentence shows that I have passed from conception, strictly taken, to belief. Spencer's contention that in this case the connexion of the predicate-notion "feeling cold" with the subject-notion "self" is for the time "absolute," though only "temporarily," seems to me to ignore the complexity of consciousness. According to my experience, disagreeable sensations, when not too violent, even tend to excite the opposite imagination: *e.g.*, great thirst is apt be attended by a recurrent imagination of cool spring water gurgling down my throat. I cannot therefore agree that the utmost certainty in a proposition representing a transient empirical fact involves the "inconceivability" of its negation—except in a peculiar sense of the term in which it is equivalent to "intuitive incredibility".

It is no doubt otherwise in the case of universal propositions intuitively known—or, in Mr. Spencer's phrase, "cognitions in which the union of subject and predicate is permanently absolute". I cannot imagine or conceive two straight lines enclosing a space: here "intuitive incredibility" coincides with "inconceivability" in the strict sense; only either attribute must be taken with the qualification that I can suppose my inability to conceive or believe to be due to a defect of my intellect.

With this explanation, I shall allow myself to use Mr. Spencer's term in a stricter or looser sense, according as the cognition in question is universal or particular. I have no doubt that "inconceivability of negation," so understood, is normally an attribute of propositions that appear self-evident truths; I think that, in trying to apprehend distinctly the degree of certainty attaching to any such proposition, we commonly do apply—more or less consciously—Mr. Spencer's test, and that a systematic application of it is a useful protection against error. But I think that the objection before urged against the infallibility of the Cartesian criterion applies equally to Mr. Spencer's. Indeed he admits "that some propositions have been wrongly accepted as true, because their negations were supposed inconceivable when they were not". But he argues that this "does not disprove the validity of the test"; chiefly because (1) "they were complex propositions, not to be established by a test applicable only to propositions no further decomposable"; and (2) this test, like any other, is liable to yield untrue results, "either from incapacity or from carelessness in those who use it". The force of the second admission depends on the extension given to "incapacity". Casual and transient incapacity—similar to the occasional logical fallacies that occur in ordinary reasoning—would not seriously impair the value of the criterion; but how if the historical divergences of thought indicate obstinate and widespread incapacity? Mr. Spencer seems to hold that this is not the case if we limit the application of the criterion to simple propositions; thus he contrasts the complexity of the erroneous proposition maintained by those who regarded the existence of antipodes as inconceivable with the simplicity of the propositions that "embody the ultimate relations of space". But the proposition that "heavy things must fall downward" is apparently as simple as the proposition that "two straight lines cannot enclose a space"; and if analysis reveals complexity in the notions connected in the former proposition, this is equally the case with the latter, according to Spencer's own account of spatial perception: since, in his view, any perception of space involves "an aggregate of simultaneous states of consciousness symbolising a series of states to which it is found equivalent".

The difficulty of applying this criterion is forcibly presented when we examine the philosophical doctrine to support which it is especially propounded. For Mr. Spencer's primary aim in establishing it is to defend Realism against Idealism: this he regards as vital to his system, since "if Idealism is true, the doctrine of Evolution is a dream". Now, he nowhere, I think, expressly defines Realism: but his argument throughout implies that what is defended is the proposition that the Non-ego exists independently of the Ego. It is this proposition of which he seems to hold the negation inconceivable in any particular case of external perception: as (*e.g.*) where he speaks (*Princ. of Psych.*, § 441) of the "primary deliverances of consciousness which yield subject and object as independent existences;" and it is in this sense, as I understand, that in his *First Principles* (§§ 44, 45) he speaks of the "division of self from not-self" as "the primordial datum of Philosophy". If now we ask what "self" and "not-self" exactly mean, it is explained that we apply the term *Self*, *Ego* to an aggregate or series of faint states of consciousness, and the terms *Not-self*, *Non-ego* to an aggregate or series of vivid states: "or rather more truly—each order of manifestations carries with it the irresistible implication of some power that manifests itself, and by the words *Ego* and *Non-ego* respectively we mean the power that manifests itself in the faint forms, and the power that manifests itself in the vivid forms" (*First Principles*, § 44).

Now the proposition that an aggregate of vivid states of consciousness *plus* a power that manifests itself in them is independent of an aggregate of faint states *plus* a power that manifests itself in these is certainly not simple; while, if we try to decompose it into more elementary propositions, it seems impossible to obtain any which we can even suppose Mr. Spencer to regard as guaranteed by his criterion. For, since states of consciousness *primâ facie* imply a conscious self to which they are attributed, we cannot suppose Mr. Spencer to regard as inconceivable the negation of the independent existence of an external object so far as this is taken to be an aggregate of vivid states of consciousness; especially as he sometimes uses the term "existence beyond consciousness" as an equivalent for the independent *non-ego*. Are we to take, then, as the fundamental doctrine of Realism, established by the criterion, the proposition that the power manifested in the vivid states exists independently of the power manifested in the faint states? But again it seems impossible to suppose that Mr. Spencer regards the negation of this proposition as inconceivable, because, first, he holds that "it is one and the same ultimate reality that is manifested to us subjectively and objectively" (*Princ. of Psych.*, § 273); and secondly he holds that this ultimate reality or Power "is totally and for ever inconceivable" and "unknowable" (*First Principles*, part i., chapter v.).

I cannot indeed reconcile these two statements—I should have thought that we could not reasonably attribute either unity or duality to a totally unknowable entity: but if either of the two is maintained, it surely cannot at the same time be maintained that the negation of two independent Powers is inconceivable.

I conclude, therefore, that Mr. Spencer's Universal Postulate is inadequate to guarantee even the primordial datum of his own philosophy; and, on the whole, that—however useful it may be in certain cases—it will not, any more than the criteria before examined, provide the bulwark against scepticism of which we are in search. With this negative conclusion I must here end. In a later article, I hope to treat the problem with which I have been dealing in a somewhat more positive manner

III.—A DEFENCE OF PHENOMENALISM IN PSYCHOLOGY.

By F. H. Bradley.

The object of this paper is to defend "phenomenalism" in psychology, and to defend it mainly by endeavouring to fix its true sense, and by clearing this from mistakes and perversions. That phenomenalism is the one rational attitude in psychology I am as convinced as I am convinced that in metaphysics it is senseless. And phenomenalism I may here provisionally define as the confinement of one's attention to events with their laws of co-existence and sequence. It involves the complete abjuration of any attempt to ask in psychology for ultimate truth or consistency, and it involves the adoption as relative truth of whatever serves best to explain the detailed course of facts or those particular ways in which things happen. And, though I am well aware that I have no right to speak for any one but myself, I believe that the great body of psychologists desires and is anxious to accept phenomenalism in this sense and to relegate other inquiries about the soul to metaphysics. For, if we do not accept phenomenalism, I can perceive but one alternative. There will be in principle no division at all between psychology and metaphysics. One will be unable, at least on any principle, to limit the scope of an inquiry into the nature of the soul, and to refuse to be distracted by never-ending discussion of first principles. However anxious a man may be to confine himself to the mere observation and explanation of psychical events, he will be liable at every point to objections based on the question as to ultimate truth. And apart from phenomenalism we have nothing to justify us if we refuse to answer and to defend ourselves on this ground; while, if we do not refuse, the consequences at once are disastrous. You in particular may be sure that in metaphysics you have the truth, but then another man may not think so, and experience shows that the one probably will not convince the other. And the only reason, it seems to me, why things have gone as well as they have gone is that psychologists have in practice, but as a rule upon no clear principle, confined to a large extent the scope of their inquiries within the limits of phenomenalism. To lay down and to defend a principle of such limitation is the object of this article.[1]

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[1] I must notice here an attempt to limit the scope of psychology by defining its standpoint as "individualistic". I have remarked elsewhere (*Appearance*, 309) that this attempt is in principle mistaken. It would be absurd to suppose that metaphysical questions cannot be raised from an individualistic standpoint. Hence, whatever the phrase may be meant to mean, it as it stands is useless. And I cannot think that Dr. Stout is successful so far as he adopts this formula, or generally in his definition of the sphere of psychology (*Analytic Psychology*, i., pp. 1-12). He, in my opinion, fails to demarcate psychology from metaphysics, which latter he defines in what seems to me an erroneous manner. It is indeed possible that Dr. Stout's view and mine may be really the same, but, if so, I cannot think that his view has been clearly formulated. Psychology, he says, investigates the history of the individual consciousness, and it is not concerned with validity or worth, but with existence, and with what appears to the individual mind. But I cannot see how that by itself is enough to divide it from metaphysics. The real question surely is as to *how* it is to study the history and processes of the individual mind. Is psychology limited to phenomenalism in the sense which I have given to that term, or may it go beyond this, and if so how far? Dr. Stout, it seems to me, fails altogether to answer this vital question.

I will briefly illustrate my meaning. I may wish, for instance, in studying the history of the individual mind, to ask fundamental questions about the relation of its plurality to its unity, and also to discuss the ultimate reality of its time-process. Is anything of this kind to be permitted in psychology? Or I may wish to maintain the doctrine that the history of the individual is in a sense explained by a fundamental underlying volition or conation. Are we as psychologists to debate this? One man again may propose to reduce all Association to Redintegration, and another may seek to stop him by arguing that really there is no identity in things but only resemblance. Is this plea to be admitted in psychology and discussed there, or, if not, on what ground? Now to reply that psychology is not concerned with the validity of cognitions would, it seems to me, be idle. If you mean by cognitions the cognitions of that individual consciousness which we are studying, that surely would be irrelevant, for we are not, I presume, supposing that this particular consciousness is entertaining these special cognitions about itself. But if on the other side you possibly meant that psychology is not to judge of truth at all, that would be obviously untrue, and certainly no one could maintain it. It is quite true that psychology has not to investigate the truth of the cognitions of the mind which it studies, as such, but I wholly fail to understand how, with this, we have divided it from metaphysics. But I should add that I probably have not understood what Dr. Stout means by metaphysics.

The vital question seems to be this: Does Dr. Stout mean to confine psychology to events and the laws of events? Does he mean to assert that, since psychology is not concerned with more than this, it is at liberty to use fictions, and that the question of truth is not to be raised in it except so far as truth means whatever serves best to explain the course of mere events? I cannot understand how it is that, if Dr. Stout really holds these doctrines, he should not have expressed them

The presumption in favour of that limitation seems to me, I confess, to be so overwhelming that my best course will be simply to try to defend the doctrine of phenomenalism against objections and misconceptions. But let me first attempt to state its nature more accurately.[1] Psychology is to be concerned with psychical events, and such an event is whatever is immediately experienced, either as a whole or as an integral aspect of a whole, and is not for the purpose in hand taken otherwise than as an adjective happening to and qualifying a particular soul. These facts are events because they happen in time, each with a place in the order of the "real world" in general, and of this one soul in particular. On the other hand by their "happening" is not meant that they have no duration, for, to be events at all, they certainly must have some duration. But further psychology is not confined merely to these several events and aspects of events, and it has also to study them in their relations of sequence and co-existence within one soul. These relations, so far as they fall outside immediate experience, are of course themselves not events in the sense of facts immediately experienced, and again their laws are not events at all. But the scope of these laws on the other hand is strictly limited, and they are and remain mere laws of the bare co-existence and sequence of events. With regard to the meaning of one soul or subject that, so far I see, must be fixed arbitrarily. In the psychology of man and of the higher animals I myself think it would be most convenient to fix it by the identity of the organism, and to treat a plurality of souls within that—if indeed a plurality ever really happens—as the adjectives of one soul. The mere course of psychical events, as such, happening within a single organism and the laws of co-existence and sequence between these events will then be the object of psychology. And within psychology no further question, and in especial no question about ultimate truth, is to be entertained.

I will at once endeavour to explain this further by defending it briefly against a series of objections. I will not try to take these in a systematic order or to keep them wholly distinct, and I shall for the most part state them in my own way.

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more clearly. But if Dr. Stout does not hold them, what alternative does he offer? To me it remains unintelligible, and I must therefore persist in repeating that there is no alternative between accepting the view which I advocate and having in principle no boundary at all between psychology and metaphysics.

[1] *Cf.* here MIND, xii., 355-56.

(i.) It may be objected first that the soul really is one, and that on the view of phenomenalism it has no unity. To this I reply that it has all the unity which is wanted for our purpose. I do not indeed say that its continuity in time is unbroken, nor is there any need for me to say this ; and again the history of the soul as a whole is of course not immediately experienced by it. But the soul has certainly an identity in quality which appears in the series and the nature of which can be studied.[1] And besides qualitative identity it has relations of co-existence and sequence which phenomenalism takes as real,[2] and it has also laws of those relations. And with so much the soul certainly has a real history. The question of its ultimate real unity is not recognised by phenomenalism, but I cannot see that this prevents us from treating its history as one.

(ii.) "But in the soul then at any one time there will be for phenomenalism nothing but what is experienced at that time." Not so, I reply, and this is a sheer mistake. For phenomenalism the soul is at any one time what is experienced at that time, but it is also more. For it is qualified also by the past which really belongs to it, and that past belongs to it not merely as what it has been but as what it now is. The soul in other words *is* the dispositions which it has acquired.[3] And if it is objected that with this we have gone beyond phenomenalism, I reply that once more the objection rests on a mistake. For the dispositions are simply statements about the happening of events within the phenomenal series—assertions as to what will happen, or rather would happen, under certain conditions more or less unknown. They, in other words, are tendencies or individual laws. Certainly if phenomenalism professed to know the ultimate truth about these dispositions, and in the end really to understand them, it would end in failure and would also be quite false to itself. But, on the other hand, professing entire ignorance and the completest indifference as to their real nature, it uses these tendencies as facts, and in this it follows the example of every limited science. The dispositions are not phenomena, but they are legitimate fictions used to explain the happening of phenomena.

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[1] The possibility of an entire defect in this I do not discuss. I do not myself care what answer psychology gives in this case to the question of unity and identity.

[2] Under this head of relations will fall any piece of psychical duration, beyond what is immediately experienced, that psychology may have occasion to consider.

[3] If we recognise native psychical dispositions, a point on which I wish to say and to imply nothing, these again will qualify the soul. They will be something the real nature of which psychology does not discuss, but which it expresses as tendencies—statements as to what will happen under certain conditions. It is better to understand that these are not to be taken to exist before there is a beginning of actual psychical fact. Anything before this will be not a psychical but a physical disposition. It is, I should say, not convenient to assume a soul there where there not only is (as we assume) nothing psychical now, but where that has not existed and may not be about to exist. The inconvenience is less in a case where we suppose a temporary but complete "suspension" of psychical life. But even in this case, if any one insists that we have no right in psychology, during such a suspension, to speak of an actual psychical disposition, I cannot say he is wrong. At any rate, if we do this, we should not forget that we are making use of a certain licence.

I will try to put the same thing in a different way. In metaphysics I recognise in the end no distinction between the experienced and experience, and any attempt to draw such a distinction I consider to be in the end mistaken and futile. And hence there is naturally no readier way of proving my metaphysical views to be absurd than to assume dogmatically that this distinction holds good in metaphysics. But in psychology, since there we are not concerned with what is true in the end, I consider that this distinction is both justifiable and necessary. Beside that which at any one time is experienced you have also the thing to which the experience belongs. And far from denying this, I have always taken it as a matter which is even obvious.[1] But for psychology this thing is nothing beyond the history and the group of tendencies which have just been mentioned. For more is not wanted, and therefore more is not admissible at least within psychology.

(iii.) "But in the experienced," it may be said, "there is more than events, for there are ideas and judgments about objects, and these surely are not events." But we must, I answer, here distinguish. To say that ideas and judgments do not happen at a certain time, and that in this sense they fail to be occurrences, seems clearly contrary to fact. And again it would surely be once more contrary to fact to say that, when they happen (since they do happen), they are not also felt to happen in the soul and are not experienced as my states. But so far clearly they are events. The reality to which the ideal content is referred, that ideal content and its reference,—everything in short is present in my feeling.

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[1] I think that it is perhaps best to call this thing the soul, but I have no objection to the use of "subject" or even of "self" so long as it is clearly understood that you are not at once from these terms to draw certain conclusions, which I think quite false, about "object" or "not-self". Another kind of mistake would be to refuse to recognise any psychical subject other than the body.

Everything is thus so far an event which has a place in my history and is predicable of me. That which is not so predicable is the mere connexion of the ideal content with the reality, so far as that connexion is taken by itself, and so far as abstraction is made of any other aspect. Certainly, then, I agree that, so far as this abstraction is maintained, we have not to do with an event in my soul, but I add also that we have to do with something which falls outside of psychology. On the other hand the idea or the judgment, if you take it in any fuller sense, is assuredly a psychical event. You may go on to urge, if you please, that at any rate cognition proper is not explicable; but that is a point to be discussed within psychology, and at any rate here it is perfectly irrelevant. However much a thing is inexplicable that hardly proves that it does not happen and is no event.

A truth, we may say, is no truth at all unless it happens in a soul and is thus an event which appears in time. As it there exists, and as by existing there it influences the future history of that soul, it is a matter for psychology and for the psychology that confines itself strictly to phenomenalism. But as anything less than this or anything more than this it does not fall within psychology, that is if there are to be any limits set to psychology at all.[1]

"But," it may be further said, "let us take such a case as the following: A mind may make the Deity its object and may so, as we say, be 'converted'. Now the Deity is not an event, and is not so thought of, and does not in that character influence the mind. But yet this influence, whatever else it may be, is clearly psychological, and at the same time falls outside your psychology." But no, I reply, this is once more nothing but misunderstanding and confusion. The Deity is not a mere event of course, and of course the Deity is really present in the mind that makes it an object, and it is really present not as an event, and it really exercises in this non-temporal character psychological influence. This is all true, and yet it does not prevent something else from also being true. The presence in the soul of what is more than an event is certainly an event in that soul, and it is just because it is more than an event that in this case it is also more of an event in the history of that soul. And it is from this side of event that psychology has to do with the matter in its origin, and in its content so far as that qualifies the soul and also influences its future history. And all this falls within psychology as I have defined it. Psychology in short abstracts one side of the living whole and considers that apart. And its abstraction is the opposite of that abstraction which considers reality and truth apart from its appearance as event in the history of finite souls. And at least the abstraction made by psychology is both legitimate and necessary.

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[1] If I speculate psychologically about myself, it may be said in this case that psychology is concerned with my judgment in every sense, both as it exists and as it is true or false. Certainly this is so, but this once more would be irrelevant. Psychology is indeed interested here in the truth or falsehood of my judgment, as well as in its personal history and existence. But so far as concerned here with truth psychology is concerned with it not as mine, but abstracts wholly from that side of it. And the truth therefore will so far not be a fact or object to psychology at all, but part of its own impersonal attitude towards its object and part of its own way of dealing with that.

(iv.) But a further objection has been made that there may be "an unanalysable element in every psychical event," and yet that this is not an event. I must confess that I do not know what this objection means. It seems obvious that any aspect of any event will itself happen in time and will occupy time, and will thus itself, whenever it happens, be an event, however identical and however unanalysable it may remain, and whatever may be its duration. And, as I have replied elsewhere, "changes in the intensity of the element would of course be events, as would be also the changes in the relation of that element to others" (MIND, 47, p. 355). And without attempting further to understand I must leave the matter thus. If this "element" comes into the experienced at all it is certainly an event, but, if it is not in this sense an event or a phenomenal relation between events or a law of events, then it has no place within psychology. Let us pass on to a new objection.

(v.) "On your understanding of it," it will be said, "psychology is not true. We want to know the real truth about the soul, and we do not want to be put off with a series of events which are abstractions and laws which in part are fictions." Well then, I answer, by all means betake yourself to metaphysics, and gain of course what you seek there. But why, I urge, beside metaphysics may there not be a phenomenal psychology for persons like myself? "But it will not be a science," you reply, "if it does not give or seek the real truth." I on the contrary should maintain that, if it gives or seeks the real truth, it is not a separate science at all. The very essence of such a science everywhere, I should say, is to employ half-truths, in other words to use convenient fiction and falsehood. And if you deny this in general, I will urge that at least it is so with psychology. Do you really mean to tell me that I am not to use and work with such ideas as a law of association, or a disposition, unless I can state these in a form which is ultimately and utterly true? It seems to me that such a question when once raised and once understood can only be answered in one way, and with this I will pass on.

(vi.) "But psychology cannot," I may be told, "be a separate science, because these sciences each study separate compartments in the nature of things. On the other hand psychology has no such compartment, since there is nothing which falls outside the mind, and psychology therefore is not and cannot be a limited science." Now what conclusion really should follow from the premiss, if that were true, I will not discuss, for the whole premiss in my opinion is radically false. A limited science is not in principle made what it is by having a compartment to itself, but by studying whatever it studies with a limited end and in a limited way. If you ask for instance unconditionally what are matter and force, that is a question for metaphysics. It becomes a question for physics if you ask what they are for a certain limited purpose and in a certain limited sense. And exactly the same thing in principle holds with the science of mind. If you ask about the soul unconditionally, what is the truth about its nature, the inquiry is metaphysical. But if, on the other hand, you confine yourself to a limited kind of question about the soul, that limitation keeps you within Empirical psychology, and is the boundary of your science. And this in principle seems as clear as it is evident and visible in practice. It is evident in practice, I will venture to say, to any one not biassed by theory that both practical and theoretical knowledge of the human soul is in fact actually possessed and used by those who are not metaphysicians. And an objection which would disprove the existence and possibility of this fact can hardly be well founded.

(vii.) I will consider next a further objection, which possibly may be raised, in order in my reply to it to define my position more clearly. "We admit," it may be said, "your contention as to the object and scope of psychology. Its object, we agree, is to study the mere course of psychical events as such. It has to observe facts and to classify them, and then to seek to explain them—to explain, that is, not their ultimate nature, but their origin, and the course which they take. It has to find, so far as is possible, the reason why they happen as they happen, and not the truth as to what they are. It seeks to discover the reason why we find this one rather than that one, and it does not study the real nature of all or of any, but only their nature so far as they qualify the history of the soul. But," it may be added, "agreeing with you so far we are then driven to dissent very widely, for we think that more than mere phenomenal laws of happening is admissible, and is necessary for explanation, and we do not see on what principle you should object to more if it works." Now, I reply, if this were said, and if this really were meant, I should be satisfied on the whole, because I think that the issue once raised in this way must be decided in favour of the cause which I adopt. But I will venture to add a few words in order to make the issue still clearer. If the end and scope of psychological explanation is defined as above, I do not object to *anything* that is offered, so long as and so far as it works, and so long as it is offered merely as something which works. But I must insist that nothing does work except so far as and so long as you use it as a mere law of happening. And hence I object to your "more" because it is most certainly useless and almost certainly hurtful. Even if you had the absolute truth about the soul you could not for our purpose, so far as I see, use it as the absolute truth, unless indeed we take the absolute truth to consist in mere laws of Empirical happening. For it is only these laws which you can use here however much more you may possess. And hence if you will produce your "more" I will undertake to show of it one of two things. It is useful in psychology just so far as it really is *not* used as more than, or as anything else than, a law of phenomena. Or otherwise it is really not useful in psychology at all, but is a false and mischievous pretence of knowledge.

The question of "dispositions" will furnish, I think, a good illustration of my meaning. A disposition, I should say, in psychology is a mere way of stating that when some things have happened there will be a "tendency" for other things to happen—we may expect them to happen, that is, under favourable conditions—and, so far as these tendencies are reduced to rule, they are used properly to explain the occurrence of particular facts. On the other hand a psychologist may think that he knows what a disposition really is, and may be prepared with a more or less elaborate theory of its nature. Or again without asserting knowledge he may propose to use an avowed fiction. In either of these cases the test to be applied is the same. So far as the "real truth" or the fiction serves as a law to explain the phenomenal sequence, it is admissible within psychology, and beyond that it is illegitimate.[1] A disposition for instance may be identified with a conation.[1] Now if and so far as by this identification we can better bring the particular facts under their laws of happening, the use of conation would be an explanation and would therefore be justified as a working fiction. But otherwise its employment would be at best useless and would probably be hurtful. It would be hurtful because it tends to suggest that we understand and have explained facts, where we do not understand them and where no explanation has been given. But in this way attention may be diverted from the real problems to be solved.

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[1] This attitude of avowed ignorance would of course by some psychologists be considered improper. Prof. Ward (*Psychology*, p. 48), for

You can only explain events, I would repeat, by the laws of their happening, and it does not matter for your purpose, so long as these laws work, whether they possess ultimate truth or are more or less fictitious and false. And anything other than these laws is useless at best, and therefore probably mischievous. And if the object and scope of psychology could be agreed on, and could be limited explicitly to the mere study and explanation of phenomena, I believe the rest of this conclusion would be readily evident. What in short we want in psychology are explanations that truly explain, and above all things we do not want true explanations.[2]

I have now tried to state in general what is to be understood by phenomenalism in psychology, and I have replied to certain objections as they have been made or as they have occurred to me. But there remain two other objections, more or less connected, which I will now proceed to notice. These objections are directed against a false view of phenomenalism, and themselves seem based on a radical misunderstanding of that term. They in fact rest in great part on doctrines which I should regard as wholly indefensible. These objections may

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instance, appears to assume it as self-evident that a disposition is an actual mental state into the nature of which as psychologists we are bound to inquire. The account which he himself seems to give of it I have never found to be really intelligible. Mr. Stout (*Analytic Psychology*, i., 24-6) has criticised this account, but I could not say whether he has understood it rightly or not.

[1] A conation, that is, which is not actually experienced. To reduce a disposition to an actually experienced conation would of course, if practicable, be perfectly legitimate.

[2] I was glad to see that Wundt, in the fourth edition of his *Physiologische Psychologie*, ii., 283-84, appears to state definitely that his "Apperception" is to be understood in psychology merely as the name of a class of psychical phenomena with its laws of happening. How far, so understood, Wundt's doctrine is tenable, and how far again his practice has been wholly consistent with his present statement, are questions I do not discuss.

be stated as follows: "You have taken," it will be said, "no account of a fundamental difficulty. In the first place mere phenomena are quite discrete and lack all continuity; and in the second place they at any rate are all mere perceptions merely given to the self. This, it is true, is not the case with regard to pleasure and pain, and as to whether these are or are not phenomena, we have our own view which you seem unable to understand. But at any rate, to speak in general, phenomena are mere objects, and the whole life of the self cannot be resolved into objects without a self, even when the laws of these objects are added *ad libitum*. And with your educational advantages," it may even be added, "it seems strange that you should not see this." But I would reply that not only was I, if I may say so, brought up to see this, but I was brought up also to perceive something else as well. And the result is that I reject both the doctrines on which the objections are founded. Phenomena are not merely discrete nor again are all of them objects, and in short the true phenomenalism has been completely misunderstood and perverted.

1. On the mere discreteness of phenomena I need say very little, since truer views seem now steadily making their way. What is immediately experienced is not a collection of pellets or a "cluster," as it used to be called, of things like grapes, together with other things called relations that serve as a kind of stalk to the cluster. On the contrary what at any time is experienced is a whole with certain aspects which can be distinguished but as so distinguished are abstractions. Now each of these wholes is an event, and each of its aspects is an event, but that does not make them discrete. Every whole and its aspects as experienced has a certain duration and so some continuity in time, and it has some qualitative identity through different times actual and possible. And the duration that is experienced at one time is continuous with that which is experienced after it and before it. For, without our entering on any difficulties here as to the outward limitation of the experienced,[1] the identity of its content forces us to take it as continuous from experience to experience. In short, phenomena are legitimate abstractions, but they are not discrete reals.

And if they were merely discrete in and by themselves, then on the other side I would urge that the disease could have no possible remedy. The idea of a self or Ego joining together from the outside the atomic elements, and fastening them together in some miraculous way not involved in their own nature, is quite indefensible. It would be the addition of one more discrete to the former chaos of discretes, and it would still leave them all discrete. The idea of anything being made wholly from the outside into something else, whether by an Ego or by God Almighty, seems in short utterly irrational.

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[1] I refer here to the difficulty of drawing a line at which it ceases. The immediately experienced of course has limits, and it has very narrow ones. It is the same as the 'present' in the sense of what is directly felt in any one 'now'. To confuse this with the 'present' which is formed by any ideal content so long as that is taken to endure unbroken, would be a very serious error. *Cf.* here my *Appearance*, p. 626.

2. And as phenomena are not discrete, so phenomena are certainly not all objects.[1] This is another mistake, or in some cases it is another aspect of the same fundamental error. If all phenomena were objects or mere perceptions, and were confined to what in any sense is before the mind, then of course phenomenalism would be untenable. So understood it becomes a gross error which, if not now in principle exploded, will I imagine never be exploded, and far from maintaining phenomenalism in this sense, I consider it a thing with which one need hardly trouble oneself. But really phenomena are not all perceptions, they are not all objects given to a self, they do not all come before the mind, and to regard them so is, I venture to think, a radical mistake. And this mistake is, I venture also to think, very hurtful and a serious obstacle, wherever it exists, in the path of psychology. I will state the doctrine briefly, or I will rather state the manner in which I am forced to understand or perhaps to misunderstand it.

We have (according to this view) on one side the experienced, and that, if for the moment we disregard pleasure and pain, consists in the perceived, in objects given to and before the self. This forms the whole content of the experienced. The experienced in short is but one aspect of experience, and the other aspect consists in the activity of the self. This activity is itself not perceived and does not itself enter into the experienced content, and is not and cannot itself be made into an object. But beside these two sides of experience, one experienced and the other not experienced, we have also feeling in the sense of pleasure and pain. The position of this is to my mind so obscure that I cannot venture to state it. It is not an object, and cannot possibly be made into an object, it cannot be remembered, nor can we have an idea of it. Whether we are to say that it is not experienced I however do not know and must leave uncertain. Now this whole view, or any view which is like it, I venture to consider quite untenable and even absurd. Far from thinking the worse of genuine phenomenalism because it conflicts with such a view, I regard that conflict as a sign of truth and as a point in favour of phenomenalism.

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[1] If "object" were understood in abstraction as *mere* object then we may say that in strictness no psychical phenomenon would be an object. But this point need not be considered here. If I am asked what we are to call the experienced so far as it is not the object of a perception or cognition, I should say that the words "feeling" and "to feel" are obviously suggested. If we take the words in this sense we follow both the common usage and the literary associations of the English language. We violate both of these if we try to confine feeling to mere pleasure or pain, and a violation of this kind in the end must produce confusion. I think it was certainly ill-judged when instead of "feeling" I used 'presentation' (MIND, No. 47), for that term tends, I presume, to suggest the presentation of an object. In fact, in MIND, No. 48, a laboured criticism of many pages was produced mainly to show that, presentation being so understood, what I had written was something like nonsense. If, on that understanding, it had not been nonsense, this would have been certainly something like a miracle, and certainly nothing to my credit. But in the present unsettled state of our terminology to assume of any writer that he uses words in the sense which we think the proper one, seems likely to lead to waste of time.

The view (i.) in the first place is in my judgment contrary to plain fact, and (ii.) in the second place it refuses wholly in the end to work. (i.) The position of our original awareness of pleasure and pain, for we somehow are aware of them, is to me so lost in obscurity that I can but point to it and pass on. But, when I am told that I cannot make an object of a pleasure and cannot attend to it, I must reply by a flat contradiction. So far as the pleasure is felt merely, it is, I agree, so far not an object and does not come before the the mind, and to urge that in being made an object it must to some extent be modified is at least a reasonable contention. But to insist that beside being felt it cannot also be made an object at all, seems in plain collision with fact.[1] And it is again in plain collision with fact to make the whole of what is at any moment experienced consist in objects before the mind. If you take a cross section through that of which at any one moment we in the widest sense are aware—the whole way, I mean, in which we come to ourselves and feel ourselves at any given moment—you will hardly find that everything experienced there has the form of an object over against and given to the self. For the self feels itself, and it feels itself as something concrete, and it feels the presence of an object or objects given to this self which is so far not an object and yet is experienced. Against my objects I surely may feel myself to be passive or active, nor does this feeling consist in the mere presence of one or of two meaningless sensations. But how I can so feel myself if I am not aware of my self as something over against my objects, and how I can be so aware of my self if my self is itself not experienced, seems an insoluble puzzle. And to assert generally that in an emotion I experience nothing but objects together with pleasure and pain, and not my self otherwise at all, would seem even ridiculous. And in desire and conation the felt presence of a self, which is not experienced wholly as an object, seems really, when we reflect, to stare us in the face. Or rather it would do so if we had not blinded ourselves by a preconceived theory as to what is possible. And in short this whole view is a construction which for certain purposes may seem convenient, but which from first to last is really in sharp collision with the facts.[1]

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[1] There are some remarks on the question of ideas of pleasure and pain at the end of this paper.

(ii.) "But what does that matter," I may hear it said, "so long as the view works?" Yes, but, I reply, it does not work, but from the very first is in difficulties, and at a certain point it breaks down visibly and utterly. And, to omit the other difficulties, it breaks down finally in the following way: The aspect of self has by this view been turned out of the experienced, and yet no one on the other hand can deny that self-consciousness is a fact. We rightly or wrongly then are in fact aware of a self, which self on the other hand cannot be experienced. But how in that case we can become aware of it, and by what process the idea or the notion, or whatever you prefer to call it, is ever to enter into our minds, seems impossible to discover or at least to exhibit intelligibly. And this is not a small matter and it is not a failure to explain some point of detail, but it seems on the contrary to be a cardinal and vital defect. Here is a fact—a very large and most important fact surely—which on a certain theory seems inexplicable, and which, so far as we see, would on that theory be impossible. And apart from other considerations, which here appear to be wanting, I submit that with so much any theory must be taken as disproved.[2]

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[1] For some further remarks I may refer the reader to MIND, N. S., No. 6.

[2] I was taught early that there was a most important test to be applied to every doctrine. Supposing a doctrine true, is the fact of its truth consistent with the fact that I know it to be true? This test I have always found, whether in metaphysics or in psychology, to be one which should never be neglected, and I do not hesitate to urge that in these studies its importance is really vital. On the other hand I readily admit that I am not competent to give any opinion as to what is to hold good within "Epistemology".

I would venture to illustrate the above by a reference to a late work by Prof. Andrew Seth. In his interesting volume, *Man's Place in the Cosmos*, Prof. Seth takes up a position against phenomenalism in psychology, and I should like to point out that in that position he finds it impossible to maintain himself. The phenomenalism which he criticises appears to involve the view that phenomena are all objects or perceptions. Now this view Prof. Seth himself appears to endorse, and he does not seem to find it, so far as it goes, in the least mistaken. In fact I understand him to insist himself that all the content and matter of experience, all the experienced in short, does thus consist of objects, and that phenomenalism, not in the least mistaken so far, is mistaken only in ignoring other aspects of experience which are themselves not experienced. And 'feeling' I understand Prof. Seth to identify here simply with pleasure and pain, and in respect of these to endorse wholly the position we have sketched above, and in the teeth of fact to deny that pleasure and pain can be made into objects or attended to or remembered. And in short so far and up to this point Prof. Seth's position does not seem to me to call for any special remark.

But the second part of the article becomes to me very interesting and instructive. In this Prof. Seth is concerned with the positive knowledge which we have of our own activity, and the conclusion at which he arrives seems to me to introduce a wholly different principle. Feeling becomes now for him no longer mere pleasure or pain, but it is the immediate awareness on the part of the self of its own being and activity. And this view of feeling, so far as I can judge, is in radical discrepancy with the first view, or at least would be so if its meaning and its bearings were developed. For this deliverance of feeling now surely cannot be denied to be matter which is experienced. You can surely no longer refuse to reply when you are asked as to the nature of its "what," and when inquiries are raised as to the variety of aspects within its content, you can hardly treat them as unmeaning. In short the identification of content with the "object" side of experience seems to have been tacitly given up, and with the abandonment of that prejudice the way has been cleared for quite another kind of doctrine. But I do not understand how Prof. Seth himself fails to perceive that he has here two different views as to feeling, and that, if he accepts the second of these, he can no longer make use of the first.[1] And I will venture to add that, if Prof. Seth would throw the first view over wholly and entirely with all the false prejudices which belong to it, and then without any *arrière pensée* would commit himself to and would develop the second view, he would produce a work which, whether they agreed with it or not, would be of the highest interest and advantage to students of philosophy.[1]

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[1] I do not know on what view of feeling Prof. Seth stands in that portion of his instructive review of my book in which he touches on the

It is only for a false view then that phenomena consist merely of objects. The experienced contains in itself very much more than these. And it is the whole content of the experienced which, when regarded in a certain way, becomes a co-existence and succession of events and forms the subject-matter of Empirical psychology.

I should like to append to this paper some remarks on a point which I have noticed already, the question, that is, as to whether there are ideas of pleasure and pain. And, since a separate question may be raised about pain, it is better for us here to confine our attention to pleasure. My object in what follows is not to attempt in passing the full discussion of a large subject, but to mention some difficulties which, so far as I have observed, have not been properly recognised. I shall say no more here on the strange paradox that I cannot attend to a pleasure, and the general doctrine that Association holds only between "objects," I of course do not accept. I follow here the more established view, and judge that there is reason to think that Association holds everywhere. I think also that, if any one maintains the separation in a concrete product of the aspect of pleasure from the aspect of sensation, and asserts

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subject, pp. 168, 213. I should like to say once more here that the essence of the view which I adopt—whether that is right or wrong—is that feeling does give us a positive manifold content.

[1] "With the elimination of real causality from the course of things," Prof. Seth remarks, "the world is emptied of real meaning" (p. 125). But, without raising here any discussion as to the sense in which causality is to be taken, I should like to emphasise a question which Prof. Seth, it seems to me, too much ignores. If you eliminate something, as he seems only too ready to do, from the *experienced* world, have you not in fact banished it from the world altogether? Is there in short any other world in which it could exist?

Since the above was written I have had the advantage of consulting Dr. Mellone's *Philosophical Criticism*, but I cannot see that his position is really in advance of that taken by Prof. Seth. It appears to me that what is true and what is false are still left standing side by side. But why the true view is not from the first laid down and without scruple worked out, while the false view is thrown aside, I am quite unable to understand. But Dr. Mellone, I trust, will do this some day.

the activity of one side only—the burden of proof should rest upon him. But, without entering here on these points, I wish very briefly to call attention to some difficulties which result from the view that we have no ideas of pleasure.

This view considers that we have ideas only of that which was pleasant, but that its pleasantness is in no sense recalled in idea. The mutilated residue which actually is recalled may create a fresh reaction of pleasure or not, according to the conditions now present. And as the residue provokes or does not provoke this reaction, it becomes or does not become what we commonly call an idea of pleasure.[1] This view seems a paradox and I think that it is certainly a mistake, the result of a previous error in principle, but on the other hand I do not see how its falsity could be actually demonstrated.[2] It has however in its working to encounter, it seems to me, the following difficulties.

(1) The memory and thought of a past pleasure may in fact now on the whole be pleasant or be indifferent or be painful, while it yet may remain in each case the actual and positive idea of a past pleasure.[3] If indeed we consider what

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[1] I may perhaps be allowed to mention that the reader will find this view stated in my *Principles of Logic*, pp. 408-10.

[2] I do not think that it is "almost impossible" to produce a conclusive instance of "purely affective memory" (Ribot, *Psychologie des Sentiments*, p. 170). It seems to me that from the nature of the case such a a thing could not exist. The required abstraction cannot be made, and hence any proof or disproof of this kind seems out of the question. The issue must be decided in one way or the other according as one view or the other is found in the end to strain the facts more or less, when all the facts are considered.

[3] I am forced to dissent from much in the following passage from Dr. Stout with regard to association in the case of pleasure and pain. "In order to see that the law of contiguity does not apply to pleasure-pain as it applies to presentations, we have only to recall some very common experiences. The sight of food awakens pleasure before eating; but after we have eaten to satiety it gives rise only to indifference or disgust. This is inexplicable by the law of contiguity. If the pleasure of eating became associated with the sight of food by repetition, it ought easily to be revived whenever we concentrate attention on a well-furnished dinner-table. The pleasure depends on the satisfaction of an appetite, and when the appetite has disappeared it disappears also, and cannot be revived by mere association" (*Analytic Psychology*, i., 271-72). On this I would remark first that the facts are not quite as Dr. Stout has described them, and in particular I would call attention to one point among others which he has here ignored. In the clear absence of appetite or in the clear presence also even of disgust, I still may remember that I *was* pleased. And an apparent fact of this kind is surely something to be reckoned with. And in the second place Dr. Stout's remarks seem to rest on the assumption that, wherever there is an association of which one member is present, the associated element must under all conditions come up, and perhaps even come up

the idea on the whole *is* now with regard to pleasure and pain, and distinguish this existence from what the idea means, we must, I quite agree, call the idea a new creation. But we must also add that this new creation does not necessarily, as we have seen, qualify the meaning of the idea, for that meaning in each case, we have seen, remains an idea of past pleasure. Now this ordinary instance raises, I submit, serious if not fatal difficulties. One way of meeting these would be, I suppose, to argue that the present reaction has stages and at all events is mixed, and that the various stages, or generally the various ingredients of this general mixture, somehow distribute and arrange themselves rightly without the operation of association, and thus not only belong to, but are recognised as, belonging to their several excitants. I cannot think that such an account would prove satisfactory, and it seems to lead to complications, and to call for elucidation which I could not supply. But another way of explanation would of course consist in the denial of the fact to be explained. One might assert that there is not in fact any such thing as a pleasant idea of past unpleasantness or an unpleasant idea of past pleasure, and that it is only by an illusion that we think that we possess these things. But for myself I am unable to see how such a position could be maintained. And hence the above diffi-

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easily. But does Dr. Stout himself really accept this principle? His argument, if I understand it rightly, would prove of the ideas say of mastication and deglutition, or say again the idea of vomiting, that, unless these *always* are aroused by the sight of some food, they cannot be associated with it at all, but in every possible case, where they arise, are fresh and further resultants. But is not, I would ask, such a principle false, and does not the application of it bring us into collision with fact?

Dr. Stout's general view as to pleasure and pain is, I think, on the whole stated admirably, and it is perhaps in consequence of this that he is driven at times into a fatal *impasse*, and, as it seems to me, tries to to extricate himself by arguments that will not bear examination. In illustration of what I must be allowed to call the paradox that all pleasure involves conation, he adduces the fact that if a cat is resting comfortably, it resists interference (ii., 304-5). But this seems precisely the old fallacy about pleasure and activity which I once before tried to refute (MIND, 49, p. 18) in the form in which it was offered by Dr. Bain. You surely cannot, because under altered conditions a thing becomes this or that, treat it as actually being so now and without those conditions, except of course by a licence. And it is, I would venture to add, one thing to postulate, on what rightly or wrongly seems sufficient evidence, the existence of conation everywhere where we find pleasure, and quite another thing to undertake actually to verify the presence of this conation everywhere in fact. But on this point I may probably have failed to interpret Dr. Stout rightly.

culty appears to myself to call for very serious consideration.[1]

(2) The next question I should like to raise is a difficulty about the requisite lapse of time. In ideas of the pleasant the pleasantness at least *seems* to be an integral part of the meaning, and, if it is not so, and has to be on every occasion freshly made, is there always enough of time, when we think rapidly, for this new creation to supervene in each case? Or if there is not time enough, are we to be said here to think only in words and without a genuine meaning? To one who like myself considers pleasure to be an essential element in beauty it seems hard to suppose that, when we use æsthetic ideas, this element of their meaning is in each case a fresh effect of the other elements. But even apart from this special instance of æsthetic ideas, how is the general difficulty about this lapse of time to be dealt with?

In asserting the law of Association to hold of pleasure we must of course remember that, unless there are distinctions in pleasure of such a kind and to such an extent as most certainly seem wanting, the connexion cannot be taken to hold from the mere aspect of pleasantness to this or that pleasant thing in distinction from other things. The bond will hold from the side of pleasure but generically. On the other side, however, from the thing to the pleasure, the special association will hold. But such a one-sided arrangement does not seem to me to be really exceptional or to create any real difficulty.

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[1] There is a difficulty here, I admit, which attaches itself also to the view which I think the true one. In order to have an idea of pleasure I consider that we must *to some extent* have an actual pleasure, for I accept it as a principle that to some extent an idea must be what it means. But on the view which I adopt we have here an associative bond to unite specially the two elements, in addition to whatever original union there may be apart from that bond. And I consider this to be a very great advantage on my side.

An interesting but very difficult question arises here as to our perception of the different strengths of pleasure and pain. We indubitably in fact do perceive these degrees, and we at least seem to have ideas of them. In fact I should say that we can without doubt actually have a strong idea of a weak pleasure or a weak idea of a strong pleasure. A question however must be raised as to whether we can perceive different strengths of pleasure *as such*. It is necessary, I think, to say that we can even do this. I do not of course mean that we can have a 'more' of pleasure without a 'more' of what is pleasant, but that we can, beside a 'more' of what is pleasant, actually have a moreness of and in pleasure. If we follow the facts we must, I think, suppose a scale of degrees in pleasure as such, a scale which can be attended to and made into an idea. On this ground again the paradox that we cannot attend to or have an idea of pleasure would seem not easy to maintain.

These points which I have mentioned may perhaps have been discussed satisfactorily and may very well, I admit, have been so discussed without my knowing it. But if this is not so, I venture to think that we have difficulties here of which some serious account should be taken.

IV.—PHILOSOPHICAL TERMINOLOGY
(III. Conclusion).

By Dr. Ferdinand Tönnies.

(*Translated by* Mrs. B. Bosanquet.)

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82-84. Additional causes—hindrances. 85. Philosophy in higher education and in public life.

III. *Prospects of remedies.*

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82. (5) Terminology is a production of human will, but thought and knowledge itself is also activity wherein will expresses itself. If an energetic and homogeneous will of uniform aim were given to psychological and philosophical knowledge, then unanimity of thought would soon take shape in unanimity in naming. Why is not that will given? This question leads us to certain *subsidiary causes* of the pathological phenomenon which we are considering. These subsidiary causes delay and check the *overcoming* of the difficulties, even when they are recognised as such. There is, in the first place (A), (and this refers to the whole sphere of Psychology,) the nature of the objects, which cannot be copied, do not construct themselves as perceptible unities, and can only be indirectly measured and counted. In announcing and describing psychical reality we must even more than elsewhere have recourse to verbal signs. But because this is easy to every one, especially to the imaginative man, and particularly the description of emotions which do not vary much in nature between individuals in figurative expressions understood by every one who knows the language and elementary natural events, therefore it is often held that psychological *thought* is easy. Thinking demands indeed fancy, but a fancy which has become fixed; there is all the more reason why it should wander here, because the "ejects" (as Clifford calls them) to be repre-

sented are only gained by self-observation, which more than any other observation, being independent of the senses, demands a peculiar effort and practice, even a peculiar talent, which is generally only combined with a strong theoretical interest. But, in the second place (B), such an interest has been relatively little encouraged. There are no powerful *practical* interests behind, such as are so eminently beneficial to the development of mathematics, astronomy, physics and chemistry. The practical interests which go to strengthen Psychology, and the philosophising which is based upon it, are themselves *ideal* interests—*i.e.*, interests which make themselves felt very powerfully in feeling, hence in connexion with fancy, art and religion, but in conscious thought generally remain weak in proportion as they are, as it were, overspread by those forces. In the third place (C), it thus happens that the influence of the natural sciences upon general and philosophical thought has been, and still is, incomparably greater than the influence of that which we call the mental sciences. With this is connected a certain *contempt of philosophy* in those parts which are most characteristic of it, the depreciation of Logic, the miscalling of Metaphysic. Now the natural sciences may indeed dispense with these branches of knowledge; the mental sciences cannot. It was especially fatal with reference to Metaphysic that it was banished, instead of being reformed; banished because of connexions with theology which are in no way essential to its idea, however important they were for its historical phenomenon. Its idea is—as supreme philosophy—to present in concepts the necessary content of thought, the absolute existent (*τὸ ὄν ᾗ ὄν*), to classify and develop it, hence to establish and prove a system of judgments wherein such ideas are connected. Even now the proposition still holds good with which Chr. Wolff introduces and defends his *Ontologia* ("vix aliud hodie contemtius nomen quam ontologiæ"): "In treating the supreme philosophy on scientific methods we do not recall to life the scholastic philosophy, but rectify it". That sober thinker rightly emphasises the real services of the scholastics in this field, and rightly points to *the practical value* of ontology, seeing that everywhere we stumble upon premature ill-considered judgments, owing to the lack of clarified concepts of those objects of thought, the *names* of which are in every one's mouth, such as cause, end, necessary, fortuitous, possible, impossible, perfect, unity, true, order, space, etc. Wolff's work is really, in its essential content, an extraordinarily wide development of the idea of a universal terminological instrument, which is to serve for the logical connexion of all possible concepts. It has been a completely unintentional effect of the Kantian critique to make the rational idea of such an instrument as much an object of scorn, as scholasticism had become through Descartes and his followers; so that (two generations after *Wolff*) Hegel wrote that what twenty-five years ago was called Metaphysic had been utterly rooted out and had vanished from the series of sciences—thus, he thinks "the extraordinary spectacle has been produced of a cultivated people without a Metaphysic—like a temple greatly adorned, but without its holy of holies". Since then Hegel has met with almost the same fate as Wolff before him, and as the Aristotelians before Wolff—or may we regard the present study of the Dialectic in English and American Universities as a new resurrection, if not of speculative philosophy, yet of that holy of holies? which in truth the oracle of the Delphian god has commanded to man, since theoretical self-knowledge is to elaborate and transform in ourselves the thoughts of humanity, and to know what we do when we judge and speak in concepts. It is certainly remarkable that of the three predominant systematic philosophies which, after Hegel, renewed upon an empirical basis the problem "de faire une spécialité des généralités," the first regarded Metaphysic only as a bastard between theology and science (Comte), the second again derives the principles of a synthetic philosophy from the "ultimate data of consciousness," *i.e.* from the laws of thought (Spencer), and the most recent, though like the two former completely rooted in the *natural sciences*, finds a peculiar problem of Metaphysic in its endeavour to extend the connexion of facts according to the principle of ground and consequence to the totality of all given experience; and finally coordinates ontological ideas of unity with cosmological and psychological (Wundt), which opens the prospect for a new elaboration of all transcendental concepts.

83. (D) The Philosophy of to-day, and hence also the unity and clearness of terminology, have as it were to fight *backwards* owing to the way being blocked by the imputation of being unscientific which attaches to Metaphysic; while on the other hand they meet with the hindrances which all scientific thought must experience anew from traditional doctrines and opinions which are held to be sacred and necessary. And though these obstacles have had, and still have, their historically greatest significance when opposed to the despiritualised view of nature, still at the present time they

are much more actively, we may say painfully, felt in the *moral* disciplines. Even Psychology, owing to its importance for these disciplines, has to endure a certain amount from them. This is sharply indicated in certain utterances in the opening speeches at the third international congress for Psychology (Munich, 1896, Aug. 4-7). The president, a celebrated Psychologist of the experimental school, criticised the so-called theory of Parallelism, and thought it necessary to guard himself expressly against the suggestion that he desired to "depreciate it politically or morally". Who thus excuses himself accuses here not perhaps himself, but others all the more. The royal Bavarian Minister of State for matters of Church and School replied to this speech, and concluded with the hope "that the psychological congresses would contribute to removing the great danger which might arise for the public life of civilised peoples from certain psychological theories," and even expressed his conviction, "that this congress would not shake, but would strengthen, the old belief in the responsibility of man for his actions".

84. Think of a congress of astronomers to whom it should be confided not to shake, but to strengthen, the old revered doctrine of the cycloids and the traditional belief in the movement of the sun round the earth; or of an astronomer who should conclude his criticism of the modern views of the comets by the assurance that he was not concerned to depreciate these views politically or morally. And yet only three hundred years ago such speeches were quite possible, indeed if there had been astronomical congresses they would have been inevitable. The truth is that here, as everywhere, superstition reflects itself in a thought which is partly obscure, partly false. Obscure, for though that minister doubtless spoke from his heart to "thousands," yet of those thousands scarcely ten persons would connect any thought concept with the word "responsibility," and perhaps not one of them a practicable one. And of those who escaped those dangers all would regard the being responsible as a quality of man, which attached to him as rational being. This quality cannot be perceived, hence we must know it by introspection. We are referred to the consciousness of the free will. But this consciousness contains, as has often been shown, from the *practical* point of view, nothing but the facts of rational thought. If "responsible" is nothing more than another name for these normal facts, then neither the facts nor the name can be shaken by any Psychology. But those who think under the spell of language should be made to notice that we always speak of "*making* responsible," that here

again we are dealing with a concept of which the nature is constituted by individual or (generally) by *social will*. Men make each other mutually responsible, the community makes the citizens responsible, parents make their children responsible, custom, religion, law and morality make responsible only the man who corresponds to their *idea* of a rational man. Is it right and permitted that they should do so? It is right and permitted in proportion as it is thoughtful and serves an end. But chiefly in the ethical sense we find that man makes *himself* responsible. And the superstition reflects itself again in *false* thought, in the fancy that men let themselves be determined in their practical relations by psychological theories. But the ultimate ground of this mistake is that lack of sociological, and therefore also of psychological, insight, which in its application to political maxims is still always held to be competence.

85. (E) Thus Philosophy moves, as it were, between two fires; by those in front it is attacked as reactionary, by those behind as revolutionary. Its anxious situation betrays itself most clearly in the position assigned to it in the higher education and in public life. In the higher education, for in Germany at least the only part it plays is that of a tolerated safeguard for the citizen; in many universities it maintains itself feebly by means of the still existing privilege of the "philosophical" *faculties* of granting the "philosophical" title of doctor, which has latterly possessed a certain market value, principally for young chemists who devote themselves to industry. For the rest, it is looked askance at by the followers of medicine and the natural sciences, and somewhat encouraged by Governments at the most where, like Psychology in certain respects, it is able to rise to these sciences. To this situation corresponds the badly organised state of the instruction itself. Lectures must be "popular" (*gemeinverständlich*), *i.e.* they must serve at least half for entertainment, like discourses for the lay-public. "Studies" for beginners are generally based upon Kant, because the untaught crowd cherishes the dark prejudice that to understand him in some degree is to penetrate into the *secrets* of philosophy; moreover he is the national philosopher. But the method of beginning with Kant is as if we were to desire to teach children to read from the Coptic alphabet. Of the dreadful effects which popular lectures on the one side, and elementary instruction by the *Kritik der reinen Vernunft* on the other, have on the brains of students, we may often see traces, even in the most capable, especially when they venture overhastily upon

production, in the arbitrary mixture of Kantian and vulgar *terminology*. The completely inadequate way in which the *history* of Philosophy is still taught in professorial chairs and books—for the most part, that is, as a history of vague schemes and fancies—is also partly to blame for this. It may be said that of late a considerable progress has been going on in this respect. For an exact history of *terminology*, however, almost all that we have of modern date as valuable preliminary work is the writing of Eucken. In public life again, and indeed in all lands, the power of philosophy is nothing. Neither psychologists nor philosophical moralists and politicians (sociologists) enjoy as such any authority. In matters of health and courts of justice psychological opinions, advice, services, are often needed ; they are taken exclusively from the *medical* faculty. For all the higher functions of government—in the German empire—the ordinary education of the jurist suffices: knowledge of the pandects as a survival, and of more modern legal books. Philosophical education counts rather as an indication of inability. The official opinion of philosophical ethics is such that the statement that ethics is naturally independent of religions, is disqualifying—for philosophical professorships. Philosophy was once called the handmaid of Theology. At that time she served a good house, for she remained still "queen of the sciences". To-day she is like a vagabond, begging a bit of bread now from Theology, now from the sciences, but from time to time taken into safe custody by the *police*. Vagrants also often show their fear in the obscure and confused language which they use.

III.

86. The directions from which effectual help may be expected are generally indicated by the diagnosis of the state and its causes. The chief direction is therefore given by the progress of thought itself, in the different branches in which it exerts influence upon these spheres.

87. Most important is its increasingly *international character*. At some future time it will appear as a great problem how the international character of *scientific* philosophy could have been to so large an extent obliterated by its confusion with national *belles lettres*. It becomes more and more apparent that this has been only an *interruption*, one in many ways fruitful for the spiritual life of particular nations. Philosophy is not separable from the particular sciences. But these are assigned to the communication of new observations, of new

inventions, of new methods; they live by the exchange of thoughts. Psychology, especially in its important parts, will quickly develop by experiments and statistical methods to an international science. What is called statistics, *i.e.*, a mass of sociological observations and investigations which are advanced by statistical methods, has been recognised as an international science. As for *universal* sociology, it is hardly yet constituted and little esteemed in the national university management; but already an international institute, an international journal, has been called into being for it. But if the problem of philosophy to-day is to unite in one focus psychologico-biological and sociological knowledge and thought, then it is clearly no longer reasonable that the accident of the national language and race should continue to be a decisive factor for the knowledge of modern systems of thought. The claim of reason to have *universal* validity is essential to it.

88. Now understanding and co-operation are already powerfully stirred by the conditions and means through which the intercourse of the world is carried on to-day. The United States of America, whose own scientific tradition is still young, are indeed limited by language, but not by national prejudices, and they take to themselves from all lands and without reserve the accumulators of the power of thought. Nor is it very different with the colonies of the British empire. In proportion as in the new world an inward concentration is gained for serious thought, Europe may expect a reflux of new results. Students from all parts of the world gather together in the chief towns of science, the scholars of most countries enter again into active relations by travelling and corresponding. I say again, for even in the seventeenth century, because of the cosmopolitan nature of the Church and the Latin language, and in spite of the great difficulties of intercourse, this was the normal state. The modern form of meeting-place is constituted partly as periodical publications, partly as personal *congresses;* both must tend increasingly towards a levelling of distinctions. It is inevitable that we shall become more and more conscious of the hindrances of a different terminology, especially in so far as they have been conditioned by those national limitations; but also that we should feel more and more strongly the need of a common *language.*

89. We have spoken in an earlier connexion of the constantly renewed attempts to construct a *universal language.* We indicated also that they received their impulse chiefly from the needs of *commerce.* But it is not out of place here

to recall that it was once the *scientific* needs which worked in this direction. Of several attempts and plans which attracted attention in the seventeenth century, none is so remarkable and ingenious as the work of Bishop Wilkins, upon which was expended unspeakable toil. His fundamental thought, as important as it is simple, really deserves to be constantly recalled, and it deserves a certain realisation all the more because, without knowing it himself, he merely generalised what had long been offered by the language of figures and formulæ of Mathematics. The bishop desires to invent for scientific use a universal *written language ; i.e.*, a sign-system for "concepts and things" which is meant primarily to be written, the using it for speech also being only accidental. "Though it be true," he says, "that men did first speak before they did write, and consequently writing is but the figure of speech, and therefore in order of *time* subsequent to it, yet in order of Nature there is no priority between these. . . . Men, that do retain their several tongues, may yet communicate by a Real Character, which shall be legible in all languages." Thus for everything, every concept, for grammatical derivations and inflexions, he has invented a sign, and indeed the former are so related to each other as to be intended to correspond to the nature (the relation, etc.) of the represented things and concepts. He knows well that this presupposes a *true* theory, a universal *science.* Nevertheless he ventures to fill by far the greater part of his folio with tables, in which he undertakes to register all perceptible and thinkable objects. Before him Descartes also developed and approved the idea of a universal language, wherein in like manner everything which could enter into the human mind should be ordered; "but the development of such a language is dependent upon *true philosophy* . . . upon the basis of this it would certainly represent all things to the judgment so clearly that it would be almost impossible for it to deceive itself; instead of which, on the contrary, the words which we possess have to some extent only confused meanings, to which the human mind has long accustomed itself, and in consequence of which it has complete understanding of hardly anything". "But"—says the great thinker in conclusion—"such a world-language presupposes a great change in the *order of things ;* the whole world would have to be nothing but a *paradise upon earth*, and this we can expect only in romances of the imagination." This idea was not sufficient to warn off Leibniz, who pursued such world-ideas with ominous confusion. He would go further even than Wilkins, since he thought that he could discover for every idea its *characteristic number*, so that it would be possible to make all thought just as universal and certain as simple arithmetic. He had in mind the calculation of the probability of events, and hence something of the part played to-day in the statistics of population and morality by the figures of births, mortality, marriages, criminality, etc. It is known again how in *Logic* the attempt at a graphic representation, as also of a mathematical treatment of concepts, has always been renewed, though hitherto with little success.

90. Many old schemes designed by Reason, which some years ago were still smiled at and rejected as Utopian, just as the idea of a universal language is still put aside by rational scepticism, have since then made rapid progress, though they have certainly not been fully realised; we may think of the universal postal union, of the metrical system for measure and weight, of the Latin coinage convention, of the time for middle Europe, etc. In all these cases we have to do with the relations of symbols to a more comprehensive system, with the determination of units of measurement by a more universal will. In view of these facts we may apply to these dreams, to which thinkers of the highest rank attach themselves, the words which Kant used about the Platonic Republic: we should do better to give more attention to this thought, and to throw light upon it by new efforts, than to put it on one side as useless, under the wretched and injurious pretext of impracticability.

Such ideas may really act most usefully, they may serve to point the way, though in an unknown land, yet in the *direction* which promises results. We must will the highest, we must seek the apparently impossible. A system of concepts is conceivable, which would present in their natural order all possible ideas in so far as they can have formal value in philosophical judgments, which would establish their relations to one another, their dependence, kinship, contrast, but would develop all from simple elements which are accepted as belonging to the common consciousness of humanity. These elements, as well as the whole system, should be expressed in an actual language, but in one as far as possible universal (such as Latin); and at the same time there should be assigned to them certain linear diagrams, so that complex thoughts could be compounded out of them as geometrical figures — plane, spherical and spatial. These lines and figures would not indeed be substituted for the universal term—for we continue to think of the term as denoted in language—but would illustrate in an easily comprehensible manner the relations of the terms to one another; other mathematical symbols would also be applicable.

91. Suppose, *e.g.*, it was decided to determine the concept of cause as a particular case of the logical relation of a whole to its parts, then the whole might be symbolised by a square, the parts by any number (*e.g.* 3) of inscribed squares with the same centre of gravity; the particular relation of causality could then be represented say by construction of the diagonals running through all. From this we may—for the sake of argument—develop the concept of real possibility and differentiate it by an inscribed cross, the concept of the will again by a circle drawn around this whole square, that of the social will by one or more concentric circles with greater diameters, etc. Such a definition and construction of concepts would make them as it were *prototypes*, and would distinguish them sharply from the vague general ideas which in their infinite manifoldness are generally connected with the corresponding words. They would represent an instrument applicable in every language, in every system of thought, and would impress them upon the student as fixed associations, armed with which he would go forward to the observation and analysis of reality.

92. But for the realisation of such an idea, which might easily be spun out further, there is necessary before all a localised source, which would possess not only the capacity of constructing it, but also the authority to make it accepted. Such an authority can never be that of a force, like that of political power; it can find its basis only in its actual *achievements*, and in the general opinion which recognises them. Now, from every point of view the scientific work of our time, especially the enormous works of collection, generalisation, registration—among which belong also terminological classification and labelling—demand consultation, co-operation, organisation. The given form for such a learned body is the *academy*. What the national academies were meant to do for the natural sciences, and to a considerable extent have done, that must be set before an *international academy* to achieve for the mental sciences. The former were based upon the material practical interests of statesmen and citizens for the development of trade and industry; trade, industry and science have bound together the great *political* bodies, in which the nations stand over against each other, to a large extent in jealousy and hostility. The international academy must, by the fulness and wealth of its life, be as different from those which from their birth

have in them something of a dead and mechanical nature, as a modern world-town is from the rigid princely towns of the eighteenth century. The latter were products of monarchical absolutism and of the military spirit; the former is regarded as the creation of democratic relativism (which we are free to define as communism) and of the spirit of peaceful work. Its idea is based upon the *ideal* practical interests of the educators of men, and of the citizens of the world, an interest which aims at elevating Psychology and Sociology to the rank of the leading organs in a *moral* body of which civilised nations will voluntarily become members and subordinates. Now this idea lies, as hardly any one of note among the sociologists can doubt, as it were in the air of our age. It is the overvoice to all the instruments which are played upon in the economic, the political, and spiritual life of our century. On the threshold of a new century it may perhaps give the note to this concert.

93. Such an academy must be first of all a place for scientific investigation and mental work. Just by this means it must be in the second place a place of *teaching.* Only not of teaching as a means of educating officials or for providing well-to-do men and women with the apparatus of instructed chatter—but of a teaching which proceeds immediately from the co-operation of investigation and thought, which therefore has its living sources in personal intercourse, in the influence and example of masters, which is accessible only to the true thirsters after knowledge, but will also make these intellectually and morally fruitful. The academy is not conceivable without a common *language.* Is it possible that in this language we should celebrate the resurrection of neo-Latin? Many reasons may be adduced to make it probable and not less desirable. It has never perished entirely; it is still indispensable in every technical and scientific terminology, from its unlimited capacity to adopt Greek forms of words which have their origin partly in the history of science, partly in later needs. It has, in general, passed through a long period in which it has been shaped for the ends of a manifold and refined thought; it has thus gained a certain coolness and sobriety, which is most appropriate to reason. It is only through the antiquarian work of philology, hence not really as itself, that it has been made serviceable to *rhetoric;* and even this application, being conscious, is not so dangerous to thought as the unconscious rhetoric which is concealed in every "living" language. Finally we may say that even tradition has its rights, and that this dead language would certainly occupy a neutral

position far above all the jealousies of nations with the resistance of which such an enlightened and free act as the foundation of this academy would certainly have to reckon. In an earlier connexion we regarded it as probable that English would spontaneously take the lead as the language of commercial and personal universal intercourse; but this is not contradicted by the suggested re-acceptation of neo-Latin. Just as a language of intercourse and a written language, though very different from each other, often exist together, so also a universal language of intercourse *and* thought may proceed on the one side, and a language of writing *and* thought upon the other, without friction.

94. In this language of writing and thought, however it might be constituted, there would have to be represented the great philosophical system, as also the special *Corpora* of the mental sciences, the drawing up of which we regard as the work of our academy, though many successive generations of its members may be occupied with it. Forced to coin model-concepts it would not be at a loss to find expressions for them, and ultimately to realise Leibniz's words in which he refers to the imperfections of natural languages for scientific ends as enumerated by Locke. "*Car il dépend de nous*," he says, in proof that those deficiencies persist only because of our carelessness, "de fixer les significations, au moins *dans quelque langue savante*, et d'en convenir *pour détruire cette tour de Babel*."

95. Those who regard this as Utopian we would remind of the Utopia of the metric system for weight and measure, and their attention is called to old literature about it, wherein it is lamented that it is not given to science to break the power of tradition, which (those writers say) can only be conquered by force. It is not yet a hundred years ago since the Parisian Academy of Sciences finished the measurements of the earth upon the basis of which the deposited standards were elevated as meter and kilogram into legal units for the whole of France; and already for more than twenty years a permanent international bureau for weight and measure has existed upon the basis of agreements between seventeen States. In conceiving of an international office for psychological and sociological concepts analogous to this we shall no doubt be told that we are associating things which cannot be compared; above all, its *practical* value will not be allowed, it will be pointed out that the motive power of interest will always be wanting to such *ideal* things. We have ourselves indicated how the *ideal interests* are as it were overlaid by fancy, art and religion. But here we may

emphasise on the other hand that in this respect also the conditions of life of the present century are clearly preparing a powerful revolution. Modern Society is stretching its enormous limbs. The social "question" is exciting the heads of politicians and philosophers in all countries. It is concentrating in particular problems which are already recognised as international; capital and labour, universal monopolies, criminology. The institutions, experiences and studies of particular countries are endeavouring to come to an understanding. With reference to the last-named problem there has been active for nearly ten years the International Criminalistic Union—Union Internationale de Droit penal. We have still a word to say about the study of statistics which is so important for all these problems. Statistics is generally regarded as a special science. But what is meant by the name to-day is merely the universally applicable numerical methods, of which the chief object is—according to the original meaning of the word Statistics—the investigation of the states and changes of the social life; and for this we may also substitute "empirical social psychology". Its importance, even its necessity, is publicly recognised by all States, and by many communal unions. But notwithstanding and owing to this recognition, under the evil influence of immediate administrative needs, it is even exposed to misdirection for the ends of government and parties. We may compare it with the state of astronomy at the time when great lords built observatories for the purpose of casting the horoscopes of themselves and their wives and children. Deeper interests lay behind, which elevated astronomy above such magic. So there lies also *behind* the perplexities of ministers and magistrates about "statistical material," the vital interest of modern society, to know itself in order to rule itself. It is striving after harmonising compensation, peace, but it lacks organs; it needs a ganglion, were it only as a mechanism for checking the folly and lies of passionate wars of interests. Here as everywhere the activity can only form itself from manifold strife, the organic tissue from manifold activities. The striving and activity to form a universal true science out of statistics or social psychology are present and will increase. But suppose that an international bureau was instituted for free scientific statistics, how would this have value and consequences for the philosophical construction of concepts, hence for metaphysic and ontology, as we would understand it? This is not difficult to see. Statistics can take no step without dissociating old verbal concepts, without distinguishing in thought, and therefore also naming, new objects. For instance: in France, and following its example in the German Empire, official statistics has found it necessary, in order to distinguish the more dense populations from the less dense, to group together districts of 2000 and more inhabitants, although these form a unity neither administratively nor according to their use of language; but because in both respects similar distinctions are certainly noted, allowance is made for these by calling the one group an "urban district" the other a "rural district". If this simple rule were universally carried out something would be gained, which would serve as an example for scientific ends. In all languages town and country are distinguished, sometimes only with an indefinite idea of the magnitude of places, but sometimes the name town has a positive historical, *i.e.* legal basis. This runs across differences of magnitude. In more modern times the legal signification of the concept town has receded very much into the background, and the distinctions of districts according to the number of their population have made themselves more and more free from it, while at the same time developing themselves more strongly. For statistics these distinctions have an elementary interest. It finds, *e.g.*, that the more dense populations increase also more rapidly. If we desire to show this as town and country, whether the opposition is of language or administrative, then we should have to register some densely populated districts as country, some less densely as towns—thus contradicting our own purpose. The results from different countries would certainly be entirely incomparable. The arbitrary, *i.e.* the most appropriate to its ends, construction of concepts is indispensable. The name is in itself indifferent; but if the name "town" is retained then sufficient reasons can be given for this choice as for everything which attaches itself to existing associations. The concept town is itself ontological in our sense. Social "entities" need before all others such clear determination for scientific ends, especially such as right and religion, *behind* which it is customary to seek yet another entity, like a soul behind the skull. But that the scientific official determination of psychological concepts, to which the traditional names of sensation, feeling and will would be appropriate, would be less useful than that limitation of phenomena with respect to one another to which the old names of town and country are applied, does not seem probable. It may be said with reason that here we have to do with purely "external" attributes and concepts. Certainly; but the way into the interior must always be through the exterior. We must pass over the boundaries of a country, if we desire to learn to know its climate, to know the country and its people.

96. If proposals were expected for the immediate practical removal of present evils, then these suggestions may not suffice. We have adhered to the theme, and noted only the directions in which we may venture to hope. We certainly think also, that experience teaches clearly enough that the progress of knowledge, hence also the perfection of its instruments, must proceed from the needs and efforts of life, from the growth of present cultures, from the influence of important examples. So that in this sphere, too, the old saying holds good :

"Multi pertransibunt et augebitur scientia."

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(*Conclusion.*)

V.—GREEN'S REFUTATION OF EMPIRICISM.

By Howard V. Knox.

When the critic raises any objection to the idealistic identification of thought and reality, he is apt to be met by some remark to the effect that his objection is due to his "taking the identity abstractly, as if it excluded difference". But if the identity is such as to include difference, then, surely, unless we know the nature of the difference, we do not know the nature of the identity. Until the difference is *defined*, the identity must remain abstract. Yet nowhere in the writings of 'absolute idealists' can we discover any nearer approach to an explicit definition of this difference in identity than is contained in the empty formula, that whereas objects exist only for thought, thought exists for itself; or, as T. H. Green puts it in one place:[1] "Undoubtedly there is something other than thought. Feeling is so; the whole system of nature, on which feeling depends, is so; its otherness from thought makes it what it is, but this is the same as saying that relation to thought makes it what it is, that but for thought it would not be." The formula is empty, because what we want to know is just this: In what way is nature different from thought, if it is constituted by thought, and if "but for thought it would not be"? Or, rather, the formula itself suggests a more urgent form of the same question, namely: How—if all relation is in and for thought—is relation *to* thought possible?

We must, then, try to discover for ourselves what it is that the idealist *means* when he proclaims the identity of thought and reality. With this end in view, I propose to examine the first two chapters of the *Prolegomena to Ethics*: for if, as Green says, "No one is more emphatic than Locke in opposing what is real to what we 'make for ourselves,' the work of nature to the work of the mind," it is certain that no one is more emphatic than Green himself in repudiating any such opposition of thought to reality. The fact, moreover, that Green is greatly concerned to refute empiricism, would seem, by reason of the defining power of the negative, to mark his work as specially suitable for our present purpose.

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[1] *Works*, ii., 181.

I.

Green's final conclusion concerning the relation of man, as intelligence, to nature, is contained in the following passage:—

"We are not, however, fully stating the seemingly paradoxical character of every-day perception, in merely saying that it is a determination of events in time by a principle that is not in time. That is a description equally applicable to fact, and to the perception of fact. . . . We contradict ourselves, if we say that there was first a chaos and then came to be an order; for the 'first' and 'then' imply already an order of time, which is only possible through an action not in time. As little, on the other hand, can we suppose that which we only know as a principle of unity in relation, to exist apart from a manifold which through it is related. But we may avoid considering this principle, or the subject of which the presence and action renders possible the relations of the world of becoming, as itself in becoming, or as the result of a process of becoming. It seems to be otherwise with our perceiving consciousness. The very consciousness, which holds together successive events as equally present, has itself apparently a history in time. It seems to vary from moment to moment. It apprehends processes of becoming in a manner which implies that past stages of the becoming are present to it as known facts; yet is it not itself coming to be what it has not been?

"It will be found, we believe, that this apparent state of the case can only be explained by supposing that in the growth of our experience, in the process of our learning to know the world, an animal organism, which has its history in time, gradually becomes the vehicle of an eternally complete consciousness. What we call our mental history is not a history of this consciousness, which in itself can have no history, but a history of the process by which the animal organism becomes its vehicle. 'Our consciousness' may mean either of two things; either a function of the animal organism, which is being made, gradually and with interruptions, a vehicle of the eternal consciousness; or that eternal consciousness itself, as making the animal organism its vehicle and subject to certain limitations in so doing, but retaining its essential characteristic as independent of time, as the determinant of becoming, which has not and does not itself become. The consciousness which varies from moment to moment, which is in succession, and of which each successive state depends on a series of 'external and internal' events, is consciousness in the former sense. It consists in what may properly be called phenomena; in successive modifications of the animal organism, which would not, it is true, be what they are if they were not media for the realisation of an eternal consciousness, but which are not this consciousness. On the other hand, it is this latter consciousness, as so far realised in or communicated to us through modification of the animal organism, that constitutes our knowledge, with the relations, characteristic of knowledge, into which time does not enter, which are not in becoming but are once for all what they are. It is this again that enables us, by incorporation of any sensation to which attention is given into a system of known facts, to extend that system, and by means of fresh perceptions to arrive at further knowledge."[1]

No sooner, however, has Green put forward this explanation of the "apparent state of the case," than he is driven to acknowledge the purely formal character of the explanation —to acknowledge, that is, that the explanation does not fulfil the function of explaining:—

"For convenience' sake," he continues, "we state this doctrine, to begin with, in a bald dogmatic way, though well aware how unwarrantable or unmeaning, until explained and justified, it is likely to appear. Does it not, the reader may ask, involve the impossible supposition that there is a double consciousness in man? No, we reply, not that there is a double consciousness, but that the one indivisible reality of our consciousness *cannot be comprehended in a single conception.* In seeking to understand its reality we have to look at it from two different points of view; and the different conceptions that we form of it, as looked at from these different points, *do not admit of being united,* any more than do our impressions of opposite sides of the same shield; and as we apply the same term 'consciousness' to it, from whichever point of view we contemplate it, the ambiguity noticed necessarily attends that term."[2]

The metaphor of the shield is unfortunate in the mouth of a philosopher who always insists, and rightly insists, that, in order to the possibility of knowledge, successive impressions must be held together in a single conception. But the general meaning of the passage seems sufficiently clear.[1] What Green here asserts is nothing less than this: that the two 'moments' of (*a*) thought as containing time, or thought as knowledge, and (*b*) thought as contained in time, or thought as psychical occurrence, do not admit of a genuine synthesis. Thus his effort to overcome the dualism of thought and reality eventuates, on his own showing, in an irremediable dualism of two aspects of thought. Nor will this outcome of idealism seem at all strange, if we recognise it as simply another expression for that absolute distinction between succession of consciousness and consciousness of succession which is the mainstay of the 'absolute idealist'.

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[1] *Prolegomena to Ethics*, §§ 66-67.

[2] *Op. cit.*, § 68. (The italics are mine.)

And, taking the idealistic conclusion on its own merits, it is difficult to see in it any improvement on the crudest form of empiricism. For consider: while in the one aspect thought is active and 'constitutive' and autocratic, in the other it is passively receptive of a miraculous revelation. We are left quite in the dark as to how it is ever possible for our purely passive consciousness to distinguish the objective 'communication' from mere subjective fancy; seeing that so soon as it starts in to make distinctions on its own account it must cease to be purely passive. And the darkness deepens into a darkness that can be felt, when we hear that, "the one indivisible reality of our consciousness" notwithstanding, the object as 'communicated' to us is never the object as it exists for the eternal consciousness:—

"Undoubtedly that which any event seems to us to be may be—nay always is—more or less different from what it really is. The relations by which we judge it to be determined are not, or at any rate fall short of, those by which it is really determined."[2]

And again: "It is true indeed . . . that the principle which enables us to know that there is a world, and to set about learning its nature, is identical with that which is the condition of there being a world; but it is not therefore to be imagined that all the distinction and relations, which we present to ourselves—and necessarily present to ourselves—in the process of learning to know, have *counterparts in the real world.* Our presentation of them, as a part of our mental history, is a fact definitely related and conditioned in the reality of the world; but the distinctions presented may exist *only for us,* in whom the intellectual principle realises itself under special conditions, not in the world *as it is in itself* or for a perfect intelligence." [1]

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[1] If, that is, we do not too strictly interpret the previous assertion, that "consciousness in the former sense" "consists in . . . successive modifications of the animal organism". For that, as it stands, is 'crass materialism'.

[2] *Prolegomena to Ethics*, § 23.

II.

Whatever may be the value of the conclusion which Green finally reaches, the one conspicuous thing about it is the sharp line therein drawn between the eternal object of thought and the temporally conditioned 'states of consciousness' in which that object is progressively revealed to us. In view of this, the least we can ask of Green is that he should make it perfectly clear that his argument as to the ideality of nature is concerned with nature *as such ;* and not in any way with the content of consciousness under that aspect in which it falls within the special province of the psychologist. And Green admits the justice of this demand.[2]

But even without laying any special stress on that admission one might be apt to suppose that the ambiguity which, on his own theory, "necessarily attends" such terms as "consciousness," must needs entail a corresponding discrimination in the application thereof. When, however, we come to examine Green's argument, we find that he is too intent on getting rid of "the antithesis between the real and the work of the mind" to pay particular heed to the sense in which he uses the words.

Hence it comes to pass that, to pave the way (as he expressly states) for the inquiry whether the real is the work of the mind,[3] Green asserts that "the work of the mind is real"—on the ground that even a mistaken belief "has its own reality. It has its history, its place in the development of a man's mind, its causes and effects; and, as so determined, it is as real as anything else." [4]

In this passage the reality of thought is explicitly made to rest on the fact that thought is in time. Surely then, if all reality is thought, *in the same sense as that in which thought is here said to be real*, reality must at best consist in successive states of consciousness? And if it is not in this sense, but in a sense absolutely different from this, that the real is to be identified with the work of the mind, then the fact that thought is really in time only escapes being utterly irrelevant, by being, to say the least of it, peculiarly embarrassing.

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[1] *Op. cit.*, § 43. (The italics are mine.)

[2] "If thought and reality are to be identified, if the statement that God is thought is to be more than a presumptuous paradox, thought must be other than the discursive activity exhibited in our inferences and analyses, other than a particular mode of consciousness which excludes from itself feeling and will. . . . As a follower of Hegel he (Dr. Caird) must and does hold that the objective world, in its actual totality, is thought, and that the processes of our intelligence are but reflexions of that real thought under the conditions of a limited animal nature. But he does not sustain himself at this point of view. It may be that no one can, but till it is done our idealism, though we may wish it to be 'absolute,' remains merely 'subjective'" (*Works*, iii., 142-43).

[3] *Prolegomena to Ethics*, § 24.

[4] *Op. cit.*, § 22.

But, after all, we only penetrate to the true inwardness of the argument, when we observe that the reality here claimed for thought is avowedly shared by mistaken beliefs. The mere fact, then, of a thought being real in this sense, is no guarantee against its being entirely false. And the reduction of all reality to thought, *as thus understood*, is precisely what constitutes dogmatic scepticism, or rather nihilism.

And the argument does not even escape verbal self-contradiction. For thought is said to be "as real *as anything else*"; and this necessarily implies that there is something else real besides thought. Which precludes *ab initio* the reduction of all reality to thought in the sense in which thought is here spoken of.

The fact of the matter is, that so to take advantage of the twofold nature of thought, whereby thought has temporal existence as well as meaning, as to obliterate, along with the distinction between reality and thought, the distinction between reality and illusion—a consummation which Green, in the passage under discussion, is avowedly[1] striving to effect—to do this is to deny the distinction between truth and error. Which, again, is to assert that one assertion is as good as another—and (so far as this particular assertion is concerned) a good deal better too. Surely it is a significant thing that on the threshold of the temple of idealism assertion should be solemnly required to divest itself of all meaning.

The confusion we have noticed is too hopeless to be really made any worse by the fact that Green, after rejecting as illusory the distinction between illusion and reality, incontinently 'passes' (the expression is his) to an inquiry into the nature of this distinction under the form of the question, "How do we decide whether any particular event or object is really what it seems to be, or whether our belief about it is true?"[2] And indeed I think a comparative study of the subjoined passages—which are not chance utterances, but mark successive stages of the argument in the *Prolegomena*—is calculated to discourage any attempt to 'comprehend in a single conception' Green's kaleidoscopic views as to the significance of the distinction between illusion and reality. (The italics are mine throughout.)

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[1] "The very question, What is the real?—which we seem to answer by help of this opposition [between the real and the work of the mind]—is a misleading one, so far as it implies that there is something else from which the real can be distinguished" (*ibid.*).

[2] *Op. cit.*, § 24, second paragraph.

(*a*) "The terms 'real' and 'objective,' then, have no meaning except for a consciousness which presents its experiences to itself as determined by relations, and at the same time conceives a single and unalterable order of relations determining them, with which its *temporary* presentation, as each experience *occurs,* of the relations determining it may be contrasted. For *such* a consciousness, *perpetually altering its views* of the relations determining any experience under the necessity of combining them in one system with other recognised relations, and for such a consciousness *only,* there is significance in the judgment that any experience seems to be so and so, *i.e.*, to be related in a certain way, but really is otherwise related."[1]

(*b*) "From the above considerations thus much at any rate would seem to follow: that a form of consciousness, *which we cannot explain as of natural origin,*" *i.e.*, which is not in time, "is necessary to our conceiving an order of nature, an objective world of fact from which illusion may be *distinguished.*"[2]

(*c*) "Let us consider now how we stand. We have rejected the question, What is or constitutes the real? as intrinsically unmeaning, *because it could only be answered by a distinction which would imply that there was something unreal.*"[3]

(*d*) "There are difficulties enough, no doubt, in the way of accepting such a form of 'idealism,' but they need not be aggravated by misunderstanding. *It is simply misunderstood if it is taken to imply . . . the obliteration of the distinction between illusion and reality.*"[4]

III.

In § 15 of the *Prolegomena*, after pointing out that "So far we have only reached the conclusion that a conception, to which understanding is related as faculty to function, is the condition of our ability to distinguish a real from the unreal, matter of fact from illusion"; Green continues:—

"It will be said perhaps that so much pains need not have been spent on establishing a proposition which in effect merely tells us that without a conception of an order of nature we could not conceive an order of nature. Is not this, it may be asked, either an identical proposition or untrue—an identical proposition, if understood strictly as thus put; untrue, if taken to mean that the conception of an order of nature does not admit of being generated out of materials other than itself? Now it is just the difficulties in the way of explaining the origin of the conception in question out of anything else than judgments which presuppose it, that we wish to exhibit. They are the difficulties which beset any theory that would treat the knowledge of nature as itself the result of natural processes."

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[1] *Op. cit.*, § 13. [2] *Op. cit.*, § 19. [3] *Op. cit.*, § 26. [4] *Op. cit.*, § 37.

In the exposition of the said 'difficulties' lies the sum and substance of Green's criticism of empiricism; and here, so it seems, we are to gain the desired assurance that his proof of the ideality of nature is something more than the "identical proposition" that "without a conception of an order of nature we could not conceive an order of nature". The exposition in question purports to show that "a consciousness of events as a related series . . . has not any element of identity with, and therefore cannot properly be said to be developed out of, a mere series of related events, of successive modifications of body or soul. . . . No one and no number of a series of related events can be the consciousness of the series as related."[1]

Green himself subsequently interprets this doctrine to mean that "no knowledge, nor any mental act involved in knowledge, can properly be called a 'phenomenon of consciousness'. It may be *of* phenomena; if the knowledge is of events, it is so."[2] The head and front, therefore, of the empiricist's offending is that he subjects thought to historical treatment.

"The attainment of the knowledge, again," Green generally allows, "as an occurrence in the individual's history, a transition from one state of consciousness to another, may properly be called a phenomenon; but not so the consciousness itself of relations or related facts—not so the relations and related facts present to consciousness—in which the knowledge consists."[3] The "transition from one state of consciousness to another," which "may properly be called a phenomenon," presumably falls within the province of the psychologist; while "the consciousness itself," "in which the knowledge consists," must—since no "mental act involved in knowledge can properly be called a phenomenon of consciousness"—fall wholly outside that province. Thus the psychologist has left on his hands a series of transitions from nothing to nothing—a veritable *chimæra bombinans in vacuo.* In other words, Green quietly eviscerates the individual consciousness, as such, of its content; and in this way, while outwardly admitting that thought has in some sense a development in time, elusively contrives to repudiate any concrete application of that principle. Why it should be any less criminal to make psychology impossible than to make knowledge of nature impossible, is a question which does not seem to interest him in the least.

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[1] *Op. cit.*, § 16.

[2] *Op. cit.*, § 57.

[3] *Ibid.*

But to appreciate the argument in all the fulness of its futility, we must look at it in the light of Green's final conclusion. It is claimed that there is an absolute difference between any "series of related events" and "the consciousness of the series as related". It is claimed, in other words, that there is an *absolute difference between thought and its object*—when the object is a series of events. Now, if this refers to the eternal consciousness, what becomes of such statements as the following?—"Even if relations of any kind could be independent of consciousness, certainly those that form the content of knowledge are not so. As known they exist only for consciousness; and, if in themselves they were external to it, we shall try in vain to conceive any process by which they could find their way from without to within it."[1] Are we then to understand that consciousness as here spoken of is consciousness *sub specie temporis*—the consciousness which Green, half a dozen pages farther on, assures us is "as real as anything else," and which therefore *is* different from the object it refers to? But this interpretation is precluded by the simple fact, that the argument under consideration, as has been already shown, amounts to an assertion that thought is not in time at all. We are driven therefore to the conclusion, that consciousness as here spoken of is not consciousness in either of the two divergent senses of the term recognised by Green—or, indeed, in any sense recognisable by mortal man.

Thus Green's refutation of empiricism is found to be, on the face of it, a denial that there can be any such thing as psychology at all; while on examination it "turns out to be a concatenation of words to which no possible connexion of ideas corresponds". And it is perhaps not unworthy of remark, that in any case the whole argument is in flat contradiction with the characterisation of empiricism as a ὕστερον πρότερον:[2] for so to characterise empiricism is to assert that nature, far from having no element of identity with thought, is itself a thought-product.

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[1] *Op. cit.*, § 69.

[2] *Op. cit.*, § 9. *Cf.* also § 35, where the above contradiction comes out with special clearness.

Green first maintains, ostensibly in harmony with the teaching of Kant, that "the understanding makes nature" (§§ 11-14). In answer to the objection that the proof given only establishes that "without a conception of an order of nature we could not conceive an order of nature," he next contends that knowledge of nature cannot be a "result of natural processes"—on the ground that there is no "element of identity" between nature and knowledge (§§ 15-18). On the strength of these considerations, and fortified by the insight that thought is "as real as anything else" (§§ 21-23), he proceeds to argue (§§ 26-37) that, succession being a relation, successive events are not successive;[1] and that not only our knowledge of nature, but nature itself, as "the system of related appearances," is "impossible apart from the action of an intelligence".[2] Green himself avers[3] that this does *not* mean either that nature and knowledge are to be "identified," or that nature is a "result" of intelligence; but it assuredly can mean nothing *else*. Besides, his original undertaking was to equate the "real" with "the work of the mind";[4] and it is certainly in this sense that his results are applied in the sequel.[5] In short, Green argues that *because* thought (being eternal) has no element of identity with nature, while at the same time (in virtue of having a history) it is as real as anything else; *therefore* the truth of Kant's dictum is, that nature in its totality is an eternal thought and empiricism is a *ὕστερον πρότερον*. He thus dexterously contrives to make his premisses not only mutually destructive, but also severally subversive of his conclusion. And if the premisses, when separately analysed, are found to be of more than dubious import, the conclusion taken by itself scarcely even pretends to have a meaning.

Just by way of rounding off the above demonstration of the ideality of nature, Green endeavours, in §§ 42-51, to show that the distinction between the 'form' and 'matter' of experience—the distinction with which he has been working all along—is one of those which have no "counterparts in the real world"; which "exist only for us, . . . not in the world as it is in itself or for a perfect intelligence".[6] That is to say, in order to remove what he takes to be the one remaining obstacle to a complete identification of the real with the work of the mind, he rejects the distinction which forms the starting point of his entire argument, on the ground that it is the work of the mind as opposed to the real.

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[1] "The objects between which a relation subsists, even a relation of succession, are, just so far as related, not successive" (*op. cit.*, § 31).

[2] *Op. cit.*, § 36.

[3] *Ibid.*

[4] *Cf. op. cit.*, §§ 19 and 24.

[5] *Cf. op. cit.*, § 42.

[6] *Op. cit.*, § 43.

IV.

The peculiar tangle, to which we have drawn attention in the preceding part, is to some extent explicable by the fact that the proof brought forward by Green, with wearisome reiteration, to establish the non-temporal character of thought, is made up of a twofold *ignoratio elenchi.* And it may parenthetically be remarked, that this proof, inasmuch as it makes no pretence of discriminating between true thought and false, places error on the same footing of eternity as truth.

The proof in question partly consists in maintaining (quite rightly) that the parts of the judgment are not successive: "There may be a change into a state of consciousness of change, and a change out of it, on the part of this man or that; but within the consciousness itself there can be no change, because no relation of before and after, of here and there, between its constituent members—between the presentation, for instance, of point A and that of point B in the process which forms the object of the consciousness".[1] One might as pertinently argue that because H_2O is not first H_2 and then O, that therefore H_2O cannot be in time. The argument, in fact, will not hold water.

This confusion, now, between eternity and *indivisibility of the judgment* serves to eke out a similar, though more subtle, confusion between eternity and *continuity of consciousness.*

Green lays it down, in the most unqualified manner, that "a consciousness of certain events cannot be anything that . . . succeeds them. It must be equally present to all the events of which it is the consciousness."[2] The assertion herein contained, if deprived of the support of the first-mentioned fallacy, has absolutely no other justification than is afforded by the contention that "in order that successive feelings may be related objects of experience, even objects related in the way of succession, there must be in consciousness an agent which distinguishes itself from the feelings, uniting them in their severalty, making them equally present in their succession".[3] Which contention is, to say the least of it, entirely beside the mark. For, since the parts of the judgment-as-such, being admittedly in no way external to one another, do not require any 'holding together'; it follows that the only function the 'ego' has to fulfil is that of ensuring the continuity of consciousness. And consciousness, regarded as continuous, is consciousness *sub specie temporis*. In other words, Green bases the metaphysical necessity of an eternal 'agent' on the fact that thought has a growth in time; and then boldly invests thought itself with the non-temporal character of that 'agent'.

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[1] *Op. cit.*, § 18.

[2] *Op. cit.*, § 16.

[3] *Op. cit.*, § 32. *Cf. Works*, ii., 170: "No doubt an act of consciousness is an event in the individual's history . . . but it would not be a thought

The judgment—which is not an extended portion of the stream of consciousness, but the crest of an onward-moving wave—through all modifications of its content *cognitively* retains, in a measure, those past phases of consciousness which, as past, are *existentially* external to it in point of time. The principle of the 'ego,' or 'the synthetic unity of apperception,' is not so much an explanation as a recognition of this fundamental characteristic of *our* consciousness. And it is further implied in this principle, that the actual content of the judgment—though embracing a reference to the future—is relative to the stage of conscious experience so far attained. We can only learn, in fact, from past experience; and consequently have to wait on future experience for the means of improving our knowledge alike of the future and of the past. Thus, whatever way we look at it, the significance of the synthetic unity of apperception is absolutely bound up with the temporal aspect of thought: which aspect, however, in virtue of this principle, can no longer be viewed as exclusive of the 'moment' of thought as knowledge. What possible meaning, indeed, is there in the distinction between past (or future) events, on the one hand, and present events on the other, except in so far as thought, distinguishing itself from the former, identifies itself, *in respect of its place in time*, with the latter?

If only as a striking example of the irony of the Idea, it will be instructive to retrospectively consider the havoc wrought by this substitution of eternity of thought for the mutually implicated indivisibility of the judgment and continuity of consciousness. The said substitution finds expression, in the first instance, in an absolute distinction between succession of consciousness and consciousness of succession; which—since the latter is identified with the

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of time but for its determination by a subject which holds past and present together, which is no more *now* than it was *then* or will be *to-morrow*, and this is not in time".

eternal consciousness—is directly equivalent to *an absolute distinction between consciousness* sub specie temporis *and consciousness* sub specie æternitatis. And this, as we have seen, involves *the extrusion from consciousness* sub specie temporis *of the content of consciousness.* Further: the absolute distinction between succession of consciousness and consciousness of succession is avowedly based on the fact that the former *is* a succession; and this argument is equally applicable to the time-process of nature as a whole. Nor does Green, in his eagerness to discredit empiricism, for a moment hesitate to avail himself of the principle as so extended. "Nature," he says, "with all that belongs to it, is a process of change: change on a uniform method, no doubt, but change still. All the relations under which we know it are relations in the way of change or by which change is determined. But neither can any process of change yield a consciousness of itself, which, in order to be a consciousness of the change, must be equally present to all stages of the change; nor can any consciousness of change, since the whole of it must be present at once, be itself a process of change."[1] In other words, nature is not the eternal consciousness; has indeed (to use Green's own expressions) no "community," no "element of identity" therewith. Thus, *the object is definitely extruded from consciousness* sub specie æternitatis. And how we can be even so much as conscious *of* the object,[2] when the object is not *in any sense* in consciousness, is a question to which we shall in vain demand an answer from the 'absolute idealist'.

The doctrine, then, that thought is not in time—the doctrine which purposed to rise on stepping-stones of dead empiricists to the lofty heights of a twofold identification of nature and of our thought with the divine consciousness—this doctrine has for its content a threefold absolute distinction between God, ourselves and nature. That is to say, it makes psychology impossible, it makes knowledge of nature impossible; and, since it leaves the word 'consciousness' without the vestige of a meaning, it makes philosophy impossible.

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[1] *Op. cit.*, § 18.

[2] *Cf. op. cit.*, § 57. The passage referred to is quoted above, p. 69.

VI.—SYMBOLIC REASONING (III.).[1]

BY HUGH MACCOLL.

FROM some helpful criticisms which I owe to different logicians I gather that my recent contributions to this magazine contain certain obscurities; and the editor has kindly placed a few of its pages at my disposal in order to dispel them.

First comes my assertion (MIND, January, 1899) that a statement, no matter how high its degree, can be spoken of, not only as true or false, certain or uncertain, but also as probable or improbable *within more or less exact limits according to our data*. A difficulty appears to be felt as to the exact meaning I should attach to such a statement as, for example, $A^{\eta\iota\epsilon\epsilon}$, and especially as to how I could, under any conceivable circumstances, express the *exact chance* of its truth or falsehood. Before giving any concrete examples by way of illustration, it will be as well, and perhaps not unamusing, to translate the above symbolic statement into ordinary language. The symbol A is short for A^{τ}, and may be read "A is true"; the exponent τ being often left understood, like the sign + in common algebra. The symbol A^{η} may be read "It is impossible that A is true". The symbol $A^{\eta\iota}$ may be read "It is false that it is impossible that A is true"; which may be abbreviated into "It is possible that A is true," or, more conveniently still, into "A is possible". The symbol $A^{\eta\iota\epsilon}$ may be read "It is certain that it is false that it is impossible that A is true"; which may be abbreviated into "A is certainly possible". The symbol $A^{\eta\iota\epsilon\epsilon}$ may be read "It is certain that it is certain that it is false that it is impossible that A is true"; which may be abbreviated into "It is certain that A is certainly possible".

Probably no reader—at least no English reader, born and brought up in England—can go through the full unabbreviated translation of this symbolic statement $A^{\eta\iota\epsilon\epsilon}$ into ordinary speech without being forcibly reminded of a certain nursery composition, whose ever-increasing accumulation of *thats* affords such pleasure to the infantine mind; I allude, of course, to "The House that Jack Built". But trivial matters in appearance often supply excellent illustrations of important general principles. There is a story that Sir Isaac Newton was once thought to be in his second childhood because he was seen one summer day at his open window gravely engaged in blowing soap-bubbles, which he appeared to regard with intense interest, as, one after another, they slowly floated away in the sunlight. It was however no case of second childhood: the great philosopher was really engaged in studying the laws of reflexion, refraction and colour; and soap-bubbles happened to afford the most suitable data for a particularly promising line of investigation.

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[1] (For II. see MIND, October, 1897.)

Prof. de Morgan's remark[1] that *Probability* was "the unknown God whom the schoolmen ignorantly worshipped" when, in their logical dissertations, they discussed the subject of *modality*, was as true as it was witty; and the remark might be extended to their treatment of other logical questions besides those of modality. Undoubtedly there is an intimate connexion which Boole was, I believe, the first to point out, between the mathematical theory of chances and all problems of formal logic. Boole did not succeed in clearly explaining this connexion, mainly because of his erroneous conception as to the real meaning (in dealing with such problems) of the word *independent.* This meaning I will define presently; I now proceed to give a concrete illustration of the preceding symbolic statement $A^{\eta\iota\epsilon\epsilon}$, and of the exact value (in certain circumstances) of the chance of its being true.

As in my sixth and seventh papers in the *Proceedings of the Mathematical Society*, I use the fractional symbol $\frac{A}{B}$ to denote *the chance that* A *is true on the assumption that* B *is true;* B being some hypothesis consistent with, but not necessarily implied in, the data of the problem. Hence $\frac{A}{\epsilon}$ must denote the chance that A is true *on the assumption that* ϵ *is true;* that is to say, $\frac{A}{\epsilon}$ denotes the chance that A is true *on no assumption beyond the data of the problem.* Thus, when we simply speak of *the chance that* A *is true*, we must be understood to mean $\frac{A}{\epsilon}$. This notation leads necessarily to the formula (we will call it ξ):

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[1] See Dr. Venn's *Logic of Chance*, p. 299.

$$\frac{AB}{\epsilon} = \frac{A}{\epsilon} \cdot \frac{B}{A} = \frac{B}{\epsilon} \cdot \frac{A}{B},$$

which symbolically expresses a well-known and easily proved theorem in probability. This formula will be assumed in what follows.

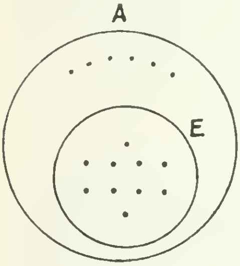

FIG. 1.

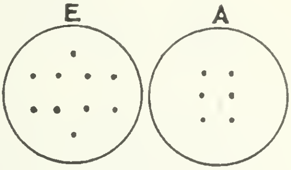

FIG. 2.

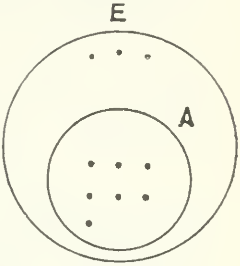

FIG. 3.

Let any one of these three figures be assumed, and out of the ten points in the circle E belonging to it let a point P be taken at random. Let A, as a statement, assert that P will turn out to be one of the points in the circle A; and let E assert that it will be one of the points in the circle E. Now, whatever figure we assume, the point P being, by hypothesis, taken in and restricted throughout to the circle E, the statement E must always be a *certainty;* whereas the statement A will be a certainty, impossibility, or a variable according to the figure we assume. In Fig. 1 we have A a *certainty* (A^ϵ); in Fig. 2 we have A an *impossibility* (A^η); and in Fig. 3 we have A a *variable* (A^θ); the exact chance of the truth of A in the last case being $\frac{7}{10}$.

But suppose we neither assume Fig. 1, nor Fig. 2 nor Fig. 3, but *take one of the three figures at random;* and then, in whatever figure happens to turn up, take (as before) a point P at random *out of the ten points in the circle* E. In these circumstances what are the respective chances of A, A^ϵ, A^η, $A^{\eta\epsilon}$ being true?

Let F_1, as a symbolic statement, assert that Fig. 1 will turn up; F_2 that Fig. 2 will turn up; and F_3 that Fig. 3 will turn up. There being no other figures in our hypothetical universe, the disjunctive statement $F_1 + F_2 + F_3$ is a *certainty;* so that we have

$$A = A(F_1 + F_2 + F_3) = AF_1 + AF_2 + AF_3.$$

Hence, in the notation of chances,

$$\frac{A}{\epsilon} = \frac{AF_1}{\epsilon} + \frac{AF_2}{\epsilon} + \frac{AF_3}{\epsilon}$$

$$= \frac{F_1}{\epsilon} \cdot \frac{A}{F_1} + \frac{F_2}{\epsilon} \cdot \frac{A}{F_2} + \frac{F_3}{\epsilon} \cdot \frac{A}{F_3}, \text{ by Formula } \xi.$$

But $$\frac{F_1}{\epsilon} = \frac{F_2}{\epsilon} = \frac{F_3}{\epsilon} = \frac{1}{3}.$$

Therefore, $$\frac{A}{\epsilon} = \frac{1}{3}\left(\frac{A}{F_1} + \frac{A}{F_2} + \frac{A}{F_3}\right)$$
$$= \tfrac{1}{3}(1 + 0 + \tfrac{7}{10}) = \tfrac{17}{30}$$
$$= \text{chance that A is } \textit{true}.$$

Similarly, $$\frac{A^\epsilon}{\epsilon} = \frac{1}{3}\left(\frac{A^\epsilon}{F_1} + \frac{A^\epsilon}{F_2} + \frac{A^\epsilon}{F_3}\right)$$
$$= \tfrac{1}{3}(1 + 0 + 0) = \tfrac{1}{3}$$
$$= \text{chance that A is } \textit{certain}\,;$$

And $$\frac{A^\eta}{\epsilon} = \frac{1}{3}\left(\frac{A^\eta}{F_1} + \frac{A^\eta}{F_2} + \frac{A^\eta}{F_3}\right)$$
$$= \tfrac{1}{3}(0 + 1 + 0) = \tfrac{1}{3}$$
$$= \text{chance that A is } \textit{impossible}.$$

Also $$\frac{A^{\eta\iota}}{\epsilon} = 1 - \frac{A^\eta}{\epsilon} = 1 - \tfrac{1}{3} = \tfrac{2}{3}$$
$$= \text{chance that A is } \textit{possible}.$$

Thus, from the data of the three preceding random figures, we have found $\frac{A^{\eta\iota}}{\epsilon} = \frac{2}{3}$, an equational statement which implies $A^{\eta\iota\theta}$. But it is clear that from different data we might have arrived at a different result. Let us, for example, suppose Fig. 2 to be similar to either Fig. 1 or to Fig. 3. Then, instead of our former result, we shall have

$$\frac{A^\eta}{\epsilon} = \tfrac{1}{3}(0 + 0 + 0) = 0\,;$$

and, therefore, $$\frac{A^{\eta\iota}}{\epsilon} = 1.$$

That is, instead of $A^{\eta\iota\theta}$, we shall have $A^{\eta\iota\epsilon}$.

Let us now suppose that we have three *collections* of figures with corresponding data, namely,[1] K_1, K_2, K_3; of which K_1 and K_2 lead each to this last conclusion $A^{\eta\iota\epsilon}$, while K_3 leads to the conclusion $A^{\eta\iota\epsilon\iota}$, the *denial* of $A^{\eta\iota\epsilon}$. Out of the three[1] collections K_1, K_2, K_3 (which we assume to be the only possible ones) let a collection K be taken at random; and let K_1, K_2, K_3 respectively assert that K will be K_1, that K will be K_2, that K will be K_3. We shall then have

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[1] Each of the three collections, K_1, K_2, K_3, is understood to consist of two, three, four or any number of figures.

$$\frac{A^{\eta\iota\epsilon}}{\epsilon} = \frac{K_1}{\epsilon} + \frac{K_2}{\epsilon} = \frac{1}{3} + \frac{1}{3} = \frac{2}{3};$$

which implies $A^{\eta\iota\epsilon\theta}$. But if, on the other hand, we suppose the collection K_3 (as well as K_1 and K_2) to lead to the conclusion $A^{\eta\iota\epsilon}$, and we take one of the three collections at random, we shall have (since the disjunctive statement $K_1 + K_2 + K_3$ is a *certainty*)

$$\frac{A^{\eta\iota\epsilon}}{\epsilon} = \frac{A^{\eta\iota\epsilon}(K_1 + K_2 + K_3)}{\epsilon} = \frac{K_1}{\epsilon} \cdot \frac{A^{\eta\iota\epsilon}}{K_1} + \frac{K_2}{\epsilon} \cdot \frac{A^{\eta\iota\epsilon}}{K_2} + \frac{K_3}{\epsilon} \cdot \frac{A^{\eta\iota\epsilon}}{K_3}$$

$$= \frac{K_1}{\epsilon} + \frac{K_2}{\epsilon} + \frac{K_3}{\epsilon} = \tfrac{1}{3} + \tfrac{1}{3} + \tfrac{1}{3} = 1,$$

a conclusion which is synonymous with $A^{\eta\iota\epsilon\epsilon}$.

Finally, suppose that out of *m* collections of data, *ma* collections lead to the conclusion $A^{\eta\iota\epsilon\epsilon}$, while the remaining $m(1-a)$ collections lead to the *denial* of this conclusion; and that out of the total *m* collections (all equally probable) we take a collection at random. In this case the chance that $A^{\eta\iota\epsilon\epsilon}$ is true will be a, a result which we express symbolically by $A^{\eta\iota\epsilon\epsilon a}$; that is to say, we conclude that $A^{\eta\iota\epsilon\epsilon}$ belongs to the class of statements whose chance of being true is a.

We have thus a concrete illustration of $A^{\eta\iota\epsilon\epsilon}$ and of the chance of its being true.

The general principle may be stated thus:—

Let A be a statement of *any* degree as regards exponents, and of any complexity as regards the number of its constituents and the intricacy of their relations; and let a_1, a_2, a_3, . . ., a_n respectively be the chances of A being true on *n* different hypotheses, all equally probable, and of which one and one only can be true. If we take one of these *n* hypotheses at random the chance (*i.e.*, the *average* chance) of A being true will be $\frac{1}{n}(a_1 + a_2 + a_3 + \ldots + a_n)$. If this average chance is *unity*, then A is a *certainty;* if it is *zero*, A is an *impossibility;* if it is a fraction between unity and zero, A is a *variable*. These three conclusions are respectively asserted by the symbols A^{ϵ}, A^{η}, A^{θ}. Observe that whatever be the degree of A, and however complex the relations of its constituents, the conclusion A^{θ} (that A is a variable) is perfectly consistent with the statement A (that A is *true*), and also perfectly consistent with the statement A^{ι} (that A is *false*); but it is *not* consistent with A^{ϵ} (that A is *certain*), nor yet with A^{η} (that A is *impossible*).

The product of the two certainties $A^{\epsilon} + A_{\theta} + A^{\eta}$ and $A + A^{\iota}$ is

$$A^{\epsilon} + AA^{\theta} + A^{\iota}A^{\theta} + A^{\eta},$$

which is synonymous with

$$A^{\epsilon} + AA^{\epsilon\iota} + A^{\iota}A^{\eta\iota} + A^{\eta};$$

for

$$AA^{\epsilon\iota} = A\,(A^{\eta} + A^{\theta}) = AA^{\theta}, \text{ and } A^{\iota}A^{\eta\iota} = A^{\iota}\,(A^{\epsilon} + A^{\theta}) = A^{\iota}A^{\theta}.$$

Thus we get the four modals of the traditional logic. For

A^{ϵ} asserts that A is *necessarily* true; *i.e.*, the supposition of its falsehood is inconsistent with our data.

$AA^{\epsilon\iota}$ asserts that A is true *in a particular case*, but uncertain *as a general law*. That is, it might, *without contradicting our data*, turn out false.

$A^{\iota}A^{\eta'}$ asserts that A is false *in a particular case*, but possible *as a general law*. That is, it might, *without contradicting our data*, turn out true.

A_{η} asserts that A is *necessarily* false; *i.e.*, the supposition of its truth is inconsistent with our data.

Another obscurity that appears to require elucidation is the distinction which I drew in MIND (October, 1897) between $C : (AB)^{\eta}$ and $C : (AB)^{\iota}$ in dealing with the problem proposed by the late Lewis Carroll. Some logicians would consider these two statements equivalent, each implying the other. As I define my symbols, however, the first is *formally* stronger than the second. That is to say, the first, *whatever our data*, implies the second; but the second does *not* under all circumstances, and whatever our data, imply the first. To prove the non-equivalence of the two statements it will suffice to give one instance in which, *within the limits of the same data*, the first is false and the second true.

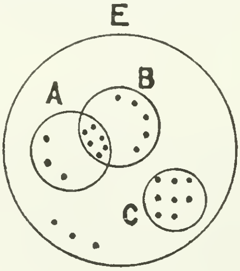

FIG. 4.

Out of the 25 points in the circle E (Fig. 4) let a point P be taken at random. Let E, A, B, C respectively assert that P will be in the circle E, that it will be in the circle A, that it will be in the circle B, that it will be in the circle C. The statement E is a *certainty;* the statements A, B, C are all three *variables*, whose respective chances of being true are $\frac{9}{25}$, $\frac{11}{25}$, $\frac{8}{25}$; and the statement AB is also a variable whose chance of being true is $\frac{6}{25}$. These four conclusions following necessarily from our data, any statement that contradicts any one of the four must be an *impossibility.* Now $(AB)^\eta$, which asserts that the chance of AB being true is *zero*, contradicts the fourth conclusion that the chance of AB being true is $\frac{6}{25}$. Hence $(AB)^\eta$ is not only a statement which happens to turn out false in a particular case and with regard to a particular random point, but it is *inconsistent with our data*, and therefore (within the limits of our data) an *impossibility.* Let η_1 denote this impossibility $(AB)^\eta$, and let θ_1 denote the variable statement C. Then we get

$$C : (AB)^\eta = \theta_1 : \eta_1 = \eta_2 ;$$

for the implication $\theta_1 : \eta_1$, which asserts that an impossibility η_1, is a factor of a variable θ_1, is a second impossibility η_2. Thus, in the given conditions and with the given data, $C : (AB)^\eta$ is an impossibility.

Next take $C : (AB)^\iota$. This, by definition of an implication, is synonymous with $(CAB)^\eta$, and only asserts that CAB is an impossibility. Now, in the given conditions of Fig. 4 and within the limits of our data, this assertion, that CAB is an impossibilty, is evidently a certainty. Call it ϵ_1. We have therefore in this case, *within the limits of the same data,*

$$C : (AB)^\eta = \eta_2$$
$$C : (AB)^\iota = \epsilon_1 ;$$

which shows that the two statements $C : (AB)^\eta$ and $C : (AB)^\iota$ are *not* synonymous. Cases may be given in which (as here) the first is false and the second true; others in which both are true; and others in which both are false; but *no* case can be adduced in which the first is true and the second false. Instances may also be given in which both are variables; but in none of these instances will the chance that the first is true exceed the chance that the second is true; it will be either less or equal.

We will now examine the question of the mutual dependence or independence of statements.

The symbol $\delta \frac{A}{B}$ expresses the *dependence of* A *upon* B. It is short for $\frac{A}{B} - \frac{A}{\epsilon}$ and denotes the increase or diminution in the chance of A being true caused by the addition of the hypothesis B to our data ϵ. Take Figs. 5, 6, 7 as illustrations.

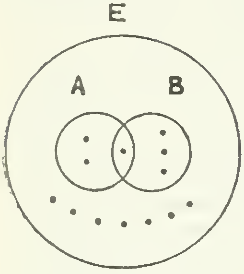

Fig. 5.

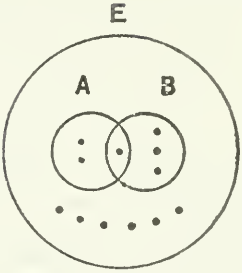

Fig. 6.

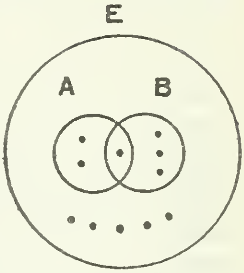

Fig. 7.

In each of these figures a point P is taken at random in the circle E, and the statements A and B respectively assert that P will be one of the points in the circle A, that it will be one of the points in the circle B.

First take Fig. 5. Here we have

$$\delta\frac{A}{B} = \frac{A}{B} - \frac{A}{\epsilon} = \frac{AB}{B} - \frac{A}{\epsilon} = \frac{1}{4} - \frac{3}{13} = +\frac{1}{52}.$$

In Fig. 6 we have

$$\delta\frac{A}{B} = \frac{A}{B} - \frac{A}{\epsilon} = \frac{AB}{B} - \frac{A}{\epsilon} = \frac{1}{4} - \frac{3}{12} = 0.$$

In Fig. 7 we have

$$\delta\frac{A}{B} = \frac{A}{B} - \frac{A}{\epsilon} = \frac{AB}{B} - \frac{A}{\epsilon} = \frac{1}{4} - \frac{3}{11} = -\frac{1}{44}.$$

Similarly we get

$$\text{in Fig. 5,}\quad \delta\frac{B}{A} = +\frac{1}{39};$$

$$\text{in Fig. 6,}\quad \delta\frac{B}{A} = 0;$$

$$\text{in Fig. 7,}\quad \delta\frac{B}{A} = -\frac{1}{33}.$$

Thus we see that in the conditions of Fig. 5 the dependence is positive; in Fig. 7 negative; and in Fig. 6 zero. In the technical language of chances the statements A and B are said to be *independent* in the conditions of Fig. 6. This signification of the word *independent* does not quite coincide with its ordinary meaning. When in probability we speak of two statements A and B as independent, we do not necessarily assert that there is no connexion (causal or other) between the events or circumstances to which they refer, but only that the addition of either statement to our data will neither increase nor diminish the chance of the other being true.

Putting a for $\frac{A}{\epsilon}$ (the chance that A is true) and b for $\frac{B}{\epsilon}$ (the chance that B is true), we have the formulæ

$$\frac{A}{B} = \frac{a}{b} \cdot \frac{B}{A}, \text{ and } \delta\frac{A}{B} = \frac{a}{b}\,\delta\frac{B}{A}.$$

The second of these shows that (since a and b are necessarily positive) $\delta\frac{A}{B}$ and $\delta\frac{B}{A}$ have always the same sign; that is, they are either both positive, or both negative, or both zero. Whether A and B be independent or not, we have the formula which we have called ξ, namely,

$$\frac{AB}{\epsilon} = \frac{A}{\epsilon} \cdot \frac{B}{A} = \frac{B}{\epsilon} \cdot \frac{A}{B} = a\frac{B}{A} = b\frac{A}{B}.$$

Hence, *when* A *and* B *are independent*, we get

$$\frac{AB}{\epsilon} = \frac{A}{\epsilon} \cdot \frac{B}{\epsilon} = ab;$$

which expresses another well-known truth in probability. For the supposition of independence implies that $\frac{B}{A} = \frac{B}{\epsilon}$.

To take a more serious subject of illustration. Let S assert that a person now forty, and taken at random out of all the persons of that age now in England, will reach the age of *seventy*; and let A assert that his occupation is A. The chance $\frac{S}{\epsilon}$ may be found approximately from tables of statistics; and we will suppose that the chance $\frac{S}{A}$ may be ascertained in a similar manner. In that case $\delta\frac{S}{A}$, the dependence of S upon A, will be known and may be taken as an approximate measure of the healthiness (when positive) or unhealthiness (when negative) of the occupation A. A statistical series $\delta\frac{S}{A}$, $\delta\frac{S}{B}$, $\delta\frac{S}{C}$, etc., might thus be convenient for affording comparisons of the healthiness or unhealthiness of different occupations during that period of life.

As an illustration of the working of this notation, I give a proof of the formula

$$\frac{A}{B} - \frac{A}{B^1} = \frac{1}{b^1}\,\delta\frac{A}{B},$$

in which a, a^1, b, b^1 are the chances of A, A^1, B, B^1. The proof by successive and self-evident equivalences is

$$\frac{A}{B} - \frac{A}{B^1} = \frac{A}{B} - \frac{a}{b^1} \cdot \frac{B^1}{A} = \frac{A}{B} - \frac{a}{b^1}\left(1 - \frac{B}{A}\right)$$

$$= \frac{A}{B} - \frac{a}{b^1}\left(1 - \frac{b}{a} \cdot \frac{A}{B}\right) = \frac{b + b^1}{b^1}\left(\frac{A}{B} - a\right) .$$

$$= \frac{1}{b^1} \cdot \delta\frac{A}{B}; \text{ for } b + b^1 = 1.$$

Let p = *probable ;* while, as in previous conventions, τ = *true,* ϵ = *certain,* $\epsilon\iota$ = *uncertain,* η = *impossible,* $\eta\iota$ = *possible.* Let $\phi\ (\tau, p)$ denote the implication

$$(A^\tau B^\tau)^p : (A^p B^p)^\tau,$$

which may be read: "If it is *probable* that A and B are both *true,* then it is *true* that A and B are both *probable* ". It is clear that $\phi\ (p, \tau)$ will then denote the converse (or inverse) implication

$$(A^p B^p)^\tau : (A^\tau B^\tau)^p,$$

in which the words *true* and *probable* interchange places. The symbol $\phi^\epsilon\ (\tau, p)\ \phi^{\epsilon\iota}\ (p, \tau)$ will then assert (what is a fact) that the former implication is *necessarily true,* but that the latter is *not* necessarily true. A statement is *probable* when its chance of being true is greater than *one-half.* Let $\psi\ (\tau, p)$ denote the implication

$$(A^\tau + B^\tau)^p : (A^p + B^p)^\tau,$$

we get $\psi^{\epsilon\iota}\ (\tau, p)\ \psi^\epsilon\ (p, \tau)$, which may be read: "It is not *certain* that if it is *probable* that either A or B is *true,* then it is *true* that either A or B is *probable ;* but it *is certain* that if it is *true* that either A or B is *probable,* then it is *probable* that either A or B is *true* "

VII.—ON SOME MINOR PSYCHOLOGICAL INTERFERENCES.

A STUDY OF MISSPELLINGS AND RELATED MISTAKES.

By T. Le Marchant Douse.

The present subject may be introduced by a reference to the familiar chapter in the *Theætetus* where Plato compares the mind to an aviary, and knowledge, or rather knowledges, to various birds and classes of birds which have been captured, and are secured therein. The recalling of a fact, or bit of knowledge, is represented by the laying-hold of some individual bird; in which process it may sometimes happen that, while fancying we are taking the right one, we actually lay hold of a wrong one. Plato indicates his literal meaning by citing the microscopic fact that $5 + 7 = 12$; and he discusses the mistake a man would make who should say that $5 + 7 = 11$.

To satisfy our present requirements, however, I must venture to expand the above simile. Let us suppose therefore that, every day, and several times a day, a man, expert in the work, has to take from the aviary, one after another, a great number of birds of various species and sizes, and arrange them rapidly in differing series of appropriate cages in an order corresponding to preconceived or even impromptu ideas of his own; and let a part of any one series consist, suppose, of cages which are labelled :—

M, B, Z, P, A, A, Q, A, D, B, S, . . . etc.

appropriate to the individual birds :—

m, *b*, *z*, *p*, *a*, *a*, *q*, *a*, *d*, *b*, *s*, . . . etc.;

suppose further (although this is a detail) that, as man and aviary are inseparable, the cages move along from right to left, on his left hand, as fast as he can fill them, so that he works upon them from left to right; then (and especially if M, B, Z, etc., form a late section of any series, so that the man's attention has begun to flag) it may be expected, for reasons which will appear below, that he will make mistakes of certain definite kinds. Thus (1), his attention, which should be fixed, say, on Z, may be for a moment perturbed by the sight or expectation of the coming P or A, and he takes a *p* or an *a* and puts it into Z;—or (2), having put an *a* into *one* of those two A's, he may imagine that he has filled both, and pass on to Q;—or (3), especially if he is working with both hands, after taking, suppose, a *b* in the left hand and an *s* in the right, he may interchange, and put *s* into B and *b* into S;—or (4), he may be influenced by the sight or persistent impression of what he has just done, say in the case of the two successive A's, and will thus be led to continue the *a*'s by putting one into Q;—or (5), and lastly, the interference may be due to what is not actually before him: if, for instance, he has had to deal very frequently with a bird *n*, this *n* may be suggested by the call for another but less familiar bird which somewhat resembles it, say *m;* and so, instead of *m*, he will put an *n* into M. Now these hypothetical forms of error symbolise with exactitude the chief classes of mistakes made by generally good spellers.

But before entering on details I must explain that my attention was drawn to this subject by reading the answers of candidates at a certain University Examination. Of the Answer-books given in I have read nearly a thousand during the past year. The average age of the candidates was over nineteen years; and except some half-dozen (who are here left out of account) they were all excellent spellers. Being set down to write, under pressure and against time, compositions of their own upon given questions, those young people may be considered to have been involuntary subjects of a Psychological Experiment, with the advantage to the experimenter that they were totally unaware of it. Their comparatively few-and-far-between mistakes were at first passed as sporadic eccentricities; but when mistakes of a similar character, and some even of identical form, appeared again and again in the answers of different candidates, it seemed to me obvious that they must be due to a common cause or common causes; and this became demonstrable as soon as I had jotted down and classified a few scores of them. Speaking generally the cause, of the perturbations, except as regards one class, was found to be a momentary withdrawal of attention from the point at which the pen had arrived in the process of writing, and its transference to some neighbouring point in the line of ideas which the mind had evolved or was striving to evolve. The different species, so to say, of interferences, or, in other words, the various modes of action of the general cause, are, as I just now said, foreshadowed by the five cases in the preceding paragraph, where the man's work upon the various series of cages prefigures the operation of continuous writing,—case (5), however, being an exceptional, though closely related one, in which the perturbing cause is partly extraneous to the current train of ideas. With this introduction I proceed to classify the actually occurring errors in the same order and under the same numbers as the above hypothetical ones; and only further premise that these five cases include all (though I will not quote all) the instances of misspelling in the answers of the candidates referred to except perhaps half a dozen detached oversights.

(1) The process under this head may be called *Prolēpsis*, or otherwise, "Assimilation from ahead". Here the mind runs on, for an instant, in advance of the fingers; and a part, or (rarely) the whole, of a later word or syllable comes within consciousness while the pen is still at work upon an earlier word or syllable: the effect is that a syllable or letter of the later is substituted for a syllable or letter of the earlier, or is added to the earlier, but is also repeated in its proper place. Hence (i.) a letter or syllable appears as if assimilated to a coming one; *e.g.:* S*k*e*k*el for shekel; S*p*oo*p*ed for stooped; Qua*t*i*t*y for quality; and Corre*t*a*t*ive for correlative; so also Pr*ou*n*ou*nce (*sæpe*[1]); Pr*ou*n*ou*n (*sæpe*); In*d*ro*d*uce; Phe*mom*ena; Tab*le*nac*le;* a Disjunct*ion* conjunct*ion*, for disjunctive; and others similar: in Me*thaph*or we have a curious *partial* assimilation;—(ii.) a letter is introduced, or a letter or syllable is added, resembling a following one (but the *additions* were confined entirely to imitations of inflexional endings); *e.g.:* P*l*a*l*mistry; Mo*r*de*r*n; An*d* a*dd*ition was made; Euphonic*s* change*s;* Plural*s* form*s* are . . .; Other*s* writer*s;* A Noun*d* precede*d* by . . .; The general Rule*d* is followe*d;* "Metaphor" is the term*ed* appli*ed* . . .; and many more.

(2) The next process may be called *Metapēdēsis*, or "Overleaping". It is really a modification of (1): attention is again projected, so to say, ahead of the fingers; but, instead of assimilating a preceding letter or syllable to a following one, the mind completely loses consciousness of the former, and the pen omits it. This kind of perturbation mostly affects whole syllables, and generally in those words which properly show two successive syllables of the same or a similar form; as in Prece*d* (*bis*) for prece*ded;* Po*s*sive (*bis*) for

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[1] By *sæpe*, or *bis*, I mean that the mis-spelling occurred many times, or twice, in *different* Answer-books, not in the same.

p*ossess*ive; Fem*ine* (*sœpe*) for fem*inine*; Exam*ing* for exam*ining*; Comb*ing* for comb*ining*; R*em*brance for r*emem*brance; Pr*oun*ced (*sœpe*) for pr*onoun*ced; Supers*ti*on for supers*titi*on; Pe*ti*on for pe*titi*on; and others. As to some of the instances in which two syllables are alike it may be argued that it is the second which is overleapt, there being a subconscious feeling that when the earlier is written both have been written: such a view is probable in an instance like "Th*is* now archaic," for "Th*is is* . . ."; but it certainly will not hold where syllables differ, as in Voculary for voc*ab*ulary; Charactistic for charact*er*istic; and others. The curious form Languge for langu*a*ge, which frequently occurred, puzzled me for a moment; but the explanation appears to be that, as the written (like the italic) *a*, apart from the final hook, is made exactly like the upper part of the *g*, only the very slightest mental perturbation is required to make the pen slide on from the back of the *a* to the tail of the *g*.

(3) This species of interference is a rather familiar one, although the written examples met with were not numerous, and only letters within the same word were affected. It may be called *Metallagē*, or more simply "Cross Compensation," a name I gave it towards a quarter of a century ago. Like (2) it is a modification of (1), but involves two correlative errors; the first is of the form (1) (i.), *i.e.*, the earlier of two letters is displaced by a later one; but then, instead of repeating the latter in its proper place, the hand instantly and automatically executes the mental instruction first given it by dashing in the earlier and displaced letter where the later one should be written; the result, therefore, has the aspect of a simple interchange; *e.g.:* Si*l*i*b*ants (*bis*) for sibilants; *Ph*am*p*lets (*bis*) for pamphlets; Pa*d*o*g*a for pagoda; Pa*t*a*l*als for palatals. A rare variety of this perturbation is seen in "His chief*s* work were . . .", for "chief work*s*," where the interchange is between a letter and no-letter; similar is Ache*l*my for a*l*chemy, the direction of exchange being reversed. A more curious and numerous variety shows interchange, not, generally, between letters, but between duplication and singleness of letters; and here the letters may even be the same; *e.g.:* Co*ll*o*n*ade for co*l*o*nn*ade; and so also Re*nn*ai*s*ance; Phi*ll*i*p*i; Conti*ll*ua*l*y (with assimilation, by (1), of *n* to *ll*), and St*ee*p*e for St*e*pp*e: in Co*r*e*ll*a-tive, para*l*e*ll*, and gu*t*u*rr*als, the exchange is in reverse order.

(4) The three species of Interference just noticed have started from ahead and operated backwards: this section

treats the case in which the line of action is reversed and leads to what may be called "Assimilation from the rear," or say, for simplicity, *Opisthomimēsis.* Here the mind lags behind the hand and perturbs its action by surviving impressions of what has been already written; in which, of course, it has the assistance of the eye; and consequently the perturbation is sometimes more violent, and is felt at a greater distance, than in the preceding cases. Its results, however, although effected in the opposite direction, are naturally similar to those in (1); that is to say, (i.) a letter, syllable, or word appears as if assimilated to a *preceding* one; *e.g.:* B*i*sh*i*p; Sy*n*o*n*y*n*s; *P*re*p*erite; *Hou*seh*ou*ld; "Such words are hillo*ck*, *k*ibroch (= pibroch)"; "Six were killed and *f*ourteen *f*ounded (= wounded)"; but in Occa*ss*ions imitation extends to duality only (see (3) *in fine*): in the case of syllables the interval between the active and passive correlatives may become wider; "The wind*ow* was br*own* (= broken!)"; "Inn*er* is form*er* (= formed) from *in;*" in the case of words the interval may grow wider still; "Here *-ing* is added *to* form *to* (= the) participle"; "The verb does not agree with *both* of the subjects, *both* (= but) only with one"; "*Again*, in doing a certain *again* (= action!), we . . ."; —(ii.) a syllable (I met with no instance of a letter or a word) resembling a *preceding* syllable is introduced or added; and, rather oddly, all the instances but one involve either *m*. *n*, or *r; e.g.:* Ov*erer;* Re*memem*ber; *Inin*imitable; Evi*denden*ce; Sen*tenten*ces; Al*teratera*tion; "Here *-ing* is used to denot*ing*"; and in "One is made to succ*eded* the other" there is not only the addition of *ed* in imitation of what should have been *-eed*, but this *-eed* is itself shortened to *-ed* either by the influence of the coming spurious syllable, or by that of the spelling of pre*cede*, etc. [see (5)].

(5) For the species of Interference that falls under this head I can find no better name than "Contamination," a term adopted by German Philologists to denote linguistic phenomena similar to those now to be noticed. The mode of action apparently is that a word or phrase being or about to be written suggests another, and generally a more familiar one, of somewhat similar form or meaning or both, which in return distorts to its own form a *part* of the word or phrase originally intended to be written: rarely a whole word is distorted into a compound of *two* familiar words. Thus, to take the mildest instances first, a candidate, as often happened, would spell T*eu*tonic nine times correctly, but the tenth time he would write T*ue*tonic, through the unconscious influence of the very familiar T*ue*sday, similarly

Vill*ian* was affected by ruff*ian*; Gold*er*n by leath*er*n; Assim*u*lation by dissim*u*lation; D*uo*ble (for double) by Latin *duo*; L*i*bials (for l*a*bials = "l*i*p-letters") by l*i*p, and so L*i*bio-dentals: in this reading of a line from "Julius Cæsar,"—"The troubled Tiber *chaffing* with her shores,"—one of the candidates was possibly "chaffing" the Examiners: another gave a more pronounced instance in *Purtending:* he had in his mind's eye two words that would equally well have expressed his meaning, *viz.*, *pur*posing and in*tend*ing, but began with one and finished with the other, reminding us of Horace's *mulier formosa superne* (quæ) *desinit in piscem.*[1] But Contamination on the largest scale appears in locutions of all sorts, and is a great corrupter of language: the only distinct instance, however, that I met with in the Answer-books was the combination "Lords Templars": the candidate meant to write "*Lords* Temporal," but had probably been recently reading about the "Knights *Templars*" in *Ivanhoe* or elsewhere.

But Writing is only a method of representing to the eye the sounds addressed to the ear in Speaking. It would seem *a priori* probable therefore that the mistakes made in the one and those made in the other would exhibit a close relationship. And that is so; although, as thought and speech are generally synchronous, the errors of correct and careful speakers are much fewer than those in the writing of generally correct spellers. Of mistakes in speaking I have made no special collection; but will nevertheless briefly refer to some which are either identical in nature with some of those above described, or which (although now we only see the permanent results) originally sprang from similar causes. In the latter division we find, corresponding to (1) above, the well-known process called *Umlaut* by the Germans, which has, to a large extent, transformed the vowel-systems of the Teutonic dialects. In this case the linguistic sense of whole tribes and peoples, while the voice was pronouncing a syllable containing a vowel of a certain quality, became affected by the expectation of a vowel of a different quality in the immediately following syllable; and under the influence of this expectation the action of the vocal organs was gradually so modified as to assimilate, wholly or partially, the former vowel to the latter.[1]

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[1] Many such forms have become permanent in our spelling; *e.g.*, the Old French sover*ain* (= late Latin super*anus*), Chaucer's sover*ain* or sover*eyne*, soon became sover*eign*; *cf.* live-*li-hood*, *is*land, *lute-string*, bed*ridden*, etc.: some of these show attempts at "popular etymology" (see below): here and there one has reverted to a more correct form, *e.g.*, *runagate* to *renegade*.

With (2) a close analogy appears in contractions like the Latin an*te*stari for an*tete*stari, ve*ne*ficus for ve*neni*ficus, nu*tri*x for nu*tritri*x. se*me*stris for se*mime*stris, etc.; in each of which, as in (2) above, it is one of two similar syllables that is suppressed; but here also such similarity is not essential, as is shown by præbere for præ*hi*bere, vicies for vic*ent*ies, etc. These suppressions were probably at first individual mispronunciations, and gradually spread, owing to the general tendency of men to avoid unnecessary effort even in speaking.

Of "Cross Compensation" we meet in actual talk with instances actually identical in nature with those in (3) above: indeed, there are probably few people who have not at sundry times been guilty of such more or less amusing interchanges of sounds. The differentiæ of the spoken examples are that they affect separate words, and of these words the initial letter or syllable. I once heard, for example, an orator, in presenting the portrait of a public man to a public institution, declare that it would thenceforth adorn "the *H*alls of those *W*alls". In farcical writings artificial instances are used to supply a sort of mechanical humour; as where Mr. Bouncer states that he feels "*gr*attered and *fl*attified". (To this phenomenon as a permanent feature in certain strata of language, and to analogous but casual examples observed in correlative *actions*, I invited the attention of Psychologists by a Note in this Journal as far back as January, 1878.)

In respect of "Contamination" also the spoken examples are identical in form and nature with those in (5); but they most frequently crop up in the talk of the illiterate; as when an old woman recently pronounced a waiting-room to be *stufficating* (= *stuffy* + (suffo)*cating*). Of this process likewise instances may be manufactured; as in a tale by Mayne Reid (I think), where an old hunter is represented as using *prezackly* (= *pre*(cisely) + eg(*zactly*), $gz = x$: compare the facetious *tanner-grown*, or the American beauty *electro-cution*. As to phrases, we may both hear plenty and see them reproduced in sloppy journals and books;—*e.g.*: the now frequent combinations, "cheap fares" and "dear rents,"—as if we bought rents and fares over the counter,—are a confusion of "*cheap* or *dear* goods" with "high or low *fares* or *rents*."

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[1] This process occasionally repeats itself in modern times: thus, for "cabbage" (pronounced "c*a*bb*i*dge") we often hear "k*e*bb*i*dge" (partial assimilation); a better instance is given by the series—Jane, J*a*ni*e*, J*e*nni*e* (partial assimilation), pronounced J*i*nn*ie* (complete assimilation): and similarly, James . . . J*i*mm*y*.

A very important, or at any rate interesting, extension of "Contamination" appears in what is called "Popular Etymology" (see my Note in MIND, just referred to), which is almost exclusively characteristic of the illiterate. The "etymology," however, properly speaking, is only part of a compound phenomenon, the other part being a modification of the shape of difficult and unfamiliar words upon the pattern of easy and familiar ones. The typical but extreme instance is the once general "sparrow-grass" for "asparagus," where the whole word is transfigured, and made to carry a meaning on its very face. Temporary instances, peculiar to individuals, are not uncommon, but leaving these I pass on (if I may resume written examples) to notice two or three that were furnished by my examinees, and could hardly be brought under mere "misspellings." One candidate, for example, among scientific inventions entered Act*o*nometer (for Act*i*-), and then described it as "an instrument for measuring *work*," taking his mistaken form *acto-* as the stem of *actum.* Another derived the first part of *tele*graph from τέλος, "end," supposing that the instrument "writes messages at *the end* of a wire"! In two other instances there was a mental assimilation, as to meaning only, of parts of *given* words to more familiar factors, *viz.*: *Pros*ody was twice defined as the art of writing *Prose*; and in *Homo*phone, *homo-* was thrice taken as the Latin *homo*, and the whole word was defined by the respective candidates as "speech of man," "a man who studies sounds," and "an instrument which imitates men's voices,"—meanings invented to suit the imagined derivations.

The foregoing inquiries suggested the further question whether similar mistakes could be found in printed matter, or at any rate in well-printed matter. In advance, this seemed highly improbable, inasmuch as mistakes, whether of author or of compositor, undergo (or should undergo) the scrutiny of two or three pairs of eyes. Yet a few days' careful observation of such print as came before me showed that our categories of error, in spite of readings in proof, were also here fairly well represented,—thanks, I believe, to the compositor. Thus, of instances falling under (1), I saw in a Literary Journal, "Yes, *b*y *b*oy"; "Lady W—plotted to decei*ver* h*er* husband"; in a work on Logic, "On examining*s* tho*se* moo*ds*"; in a History of Literature, "Cobbett was the son of a farm*er*-labour*er*"; in a recent reprint of

Ben Jonson, "Thou choos*eth* d*eath*";—under (3), in an examination-paper, She*rrif* for she*riff* (although, by-the-bye, the former is really a much better spelling);—and under (4), in the "Introduction" to the same Ben Jonson, "Nor is it to be forgott*o*n . . ."; in the aforesaid Logic, "Bo*th* may be tru*th* (for *true*), but not both false"; in a Letter in the *Times*, "Con*sci*en*sci*ous"; in a Letter in "the *Daily News*," "Tennyson ta*k*es thin*k*s on hearsay"; in another column *M*rs. *M*ramwell (for *B*ramwell) Booth. No doubt instances might have been multiplied without limit, if it had been convenient for me to continue to look for and record them.

In closing I will venture to suggest that some utility may lurk under the mere curiosities (as they may seem) of the foregoing "Study". From my own limited observation I infer that errors not a few, of the kinds above considered, besides others that are special to the process of copying, occur in old MSS., of all ages and languages; and I am told that even Inscriptions are not free from them. It may be, although I am unaware of it, that there are in our country "schools" of Archæology in which special attention is given to the linguistic side of that subject. Anyhow, it seems to me that students who are about to devote themselves to the study of ancient codices would find their work much lightened by a preliminary drill, interesting in itself, in the classification, from a psychological point of view, of errors which, like those above treated, they are sure to meet with: their chief difficulties would then be limited to the sporadic irreducible instances.

Again, in the case of examinations of young people in which spelling counts, the Examiner should not, I think, give bad marks for mistakes falling within our five categories, unless, at least, the candidates have had instructions, and have been allowed time, to read over their answers.

VIII.—CRITICAL NOTICES.

Névroses et Idées Fixes. Travaux du laboratoire de Psychologie de la Clinique à la Salpêtrière. Vol. I. (Première série), Dr. Pierre Janet (pp. 492, avec 68 figures dans le texte) ; Vol. II. (Deuxième série), Prof. F. Raymond et Dr. Pierre Janet (pp. 560, avec 97 figures dans le texte). Paris : Félix Alcan, 1898.

These two large volumes, forming a psychological repertory of some 1000 pages, constitute a work of the first importance. For they not only contain a vast amount of minute, criticised, psychological observations henceforward available to other investigators and critics ; they also show in ever more and more detail the application of a fruitful method. In his former work (*L'Automatisme Psychologique*, reviewed by the late Prof. Croom Robertson in Mind, vol. xv., p. 120), Dr. Janet worked out with much circumstance the conception of a systematised subconsciousness, which may result, in various degrees, temporarily or permanently, from disaggregation, or dissociation, of ordinary consciousness. In these ten years of persistent psychical research and experiment, the notions of dissociation, subconscious "personality," and the interpretations based upon them, have become very familiar ; so familiar, perhaps, as to be dangerously easy of application to ill-understood mental variations. Dr. Janet, however, like Binet and others, had founded his inferences not on the necessities of speculative psychology searching for coherent logical interpretations, but on the multifarious experiments offered, made possible and made reproducible in the hysterical subjects of *la Salpêtrière* and other institutions. The central idea of disaggregation of consciousness, or as I should prefer to say, disaggregation of idea-systems, was run through a multitude of diverse conditions,—aboulia, amnesia, anæsthesia of many varieties, automatic writing, spiritism, and the whole train of phenomena subsummed under the term "psychological automatism". Now the facts of each case, the interpretations put upon the facts, and the detailed application of the experimental methods involved are matters for concrete, detailed discussion on the evidence ; but what impresses me as the point of primary importance, in the present work as in the earlier, is the elaboration of a method subtle enough to match the subtlety of the facts. Doubtless, in many detailed studies of dreams, hallucinations, hysteria, and insanity, we had been supplied with abundant facts for interpretation, and occasionally the facts were critically handled by competent psychologists. What, however, was wanting was a sure and practical method of catching the subtle evanescences that constitute the content of dreams, hallucinations, etc. Such a method, Dr. Janet, following on the scientific lines of Charcot, suggested and justified. It is many years ago since Dr. Hughlings-Jackson applied to the ends of clinical research the same method of observing minutely the sequences of movement in epilepsy; the results were of the highest order, and prepared the way for the experimental verifications of Ferrier, Fritsch and Hitzig, Munck, and how many more? The stimulation and ablation methods of cerebral research have been followed and supplemented by a more searching histology, and, recently, both histology and experimental localisation have been reinterpreted in the light of the "neuron"—this loosely attached weed vibrating in an ocean of cerebral jelly. And, no doubt, we shall yet come upon physical methods of more involved subtlety. But, far as our methods have gone, the results come short of the demands of psychological analysis, and where the method of Dr. Janet seems to me most important is in that it turns round and uses psychological processes as a means of physiological analysis. Already the study of aphasia and the mental concomitants of its many varieties has gone a considerable way; but Dr. Janet, by taking advantage of the immense variety of mental abnormalities in hysteria, has raised the method of psychological observation to the level of a method not only of cure—which is, after all, a verification—but of discovery. The mental phenomena are the things primarily observed, and one feels, in working through a wealth of detail enough to shame the most industrious clinical observers, that the evanescent subtlety of the observed facts is really a profound functional analysis of psycho-physical structure and will compel us to more involved conceptions of cerebral physiology. A hint of this was given in *L'Automatisme Psychologique* (p. 419): "Doubtless, a certain physiological modification must, I am convinced, accompany this psychological disaggregation; but the modification is absolutely unknown to us; it must be abnormal and much more delicate than this regular division of the brain into two hemispheres". Even more to the same purpose is Dr. Stout (*Analyt. Psych.*, i., p. 32): "Indeed, one may say that the whole physiological plan of investigation of the higher cerebral processes is controlled and conditioned by psychological data, and even by psychological hypotheses". In delicacy, in the record of fine shades, in the restoration of mental sequences, the psychological method here applied matches approximately the "soft play of life"; the stimulus is not an electrode, but a word, a suggestion, an idea; the movements observed are not simply co-ordinations of hand, arm, limb or eye, but the attitudes, the contractures, the convulsions, the verbal jingles, the writings that form the motor expression of intellect or feeling. Physiological motions thus become an expression of idea-systems, and these in turn guide further inferences to physiological motions,—the psychical, as a rule, far out-running the physical in definiteness.

The present work,—the second volume being produced conjointly with Prof. Raymond—consists of a series of detailed studies along the lines already made familiar to us. In passing, one must note the same pellucid arrangement, the same clean-cut style, the same critical selection, as in the former book. Here as there, "manufactured personalities" are an affair of every day; but Leonie I., II., and III., and Rose I.-IV., are seen to have been but giants in a very populous kingdom. And here, too, the phenomena are correlated by reference to the fundamental problem of the relation between "neuroses" and "fixed ideas". "Psychological Automatism," in the advanced sense given to it by Dr. Janet—subconscious action of formerly conscious centres —is still everywhere assumed; but attention is concentrated on the production, analysis and dispersal of fixed ideas. And the "fixed ideas" chosen are principally, almost entirely, those of "hysterical subjects". This vague term Prof. Janet, in his former studies, has done much to define. He means by it, quite definitely, Charcot's "major hysteria," where certain stigmata—anæsthesia, amnesia, etc. — are present. Why choose these subjects? Not certainly because other forms of mental alienation do not afford abundant materials for the study of fixed ideas; they afford rather too much, but, then, they are less available for functional analysis. In hysteria, the "crisis" is frequently repeated; the conditions of disaggregation, anæsthesia, are frequently evanescent, or capable of temporary restoration; suggestibility is frequently great; somnambulism is sometimes spontaneous, or easily induced by hypnotism. Consequently, selected hysterical subjects offer a continuous series of reproducible experiments in mental transformation, and the minute study of hysteria thus becomes at once a fruitful source of psychological material and a positive introduction to insanity proper.

Next, what is a "fixed idea"? The term "fixed idea" is taken in its most comprehensive sense. "Il ne s'agit pas uniquement d'idées obsédantes d'ordre intellectuel, mais d'états émotifs persistants, d'états de la personnalité qui restent immuables, en un mot, d'états psychologiques qui une fois constitués persistent indéfiniment et ne se modifient plus suffisamment pour s'adapter aux conditions variables du milieu environnant" (i., p. 2). For practical purposes, this definition must serve. The elements in it are persistence in or out of relation to its apperception (or context), and invariability in a new context or under new stimulus. The two points mark the difference between *permanent* mental possessions and *fixed*. But in any case, the illustrations are better than any definition. The concrete case must be explained and the presence of fixed systems of ideas is only too easily established.

As one reads through the records—from simple recurrence of a limited obsession to the elaborate evolution of a "fugue"—one comes to regard "fixed idea" as at once an obstruction to normal systematisation, or apperception, and the starting-point of relatively independent or dissociated apperception-systems. It is difficult to be perfectly certain of the limit between a normal permanency in consciousness and an abnormal fixture. In the detailed studies, however, practical distinguishing features emerge. One important feature is that the "fixed ideas" here analysed are always secondary, not primary; they follow on some violent interference with the mental organisation. Such interference may be emotional or intellectual, or it may be the result of physical exhaustion or injury. Dr. Janet insists on this many times in the course of his expositions; not the "fixed idea" produces dissociation, but dissociation, following exhaustion, etc., results in the formation of fixed ideas. The dissociating neurosis, or rather the neuro-psychosis, is primary; the fixed idea and its organic growth are secondary. This coheres with the general doctrine of causation in insanity, which is a function of "nervous stress". But the nature of the fixed idea is better seen in Dr. Janet's illustrations.

The first study (i., pp. 1-68) is a case of Aboulia and fixed ideas. Dr. Janet first sketches the antecedents of the patient—neurotic or insane ancestry, bad character and stupidity in infancy, attack of typhoid fever at fourteen, consequent inertness and melancholy, intensified by her father's death and "puis par une passion amoureuse qui provoqua d'interminables rêveries et qui fut, je crois, le début de ses idées de suicide" (p. 4). She then became peculiar in her actions,—remaining motionless for long periods, requiring her brothers or mother to hand her objects that were quite near, seeming much distressed and excited on having to move (*se déranger*), and occasionally bursting out into violent rage, tearing her clothes and knocking the furniture about. To the alienist, this sequence is so familiar that he is usually content to record it as a full account of the facts. Not so Dr. Janet. He proceeds first to study the patient's movements. The first symptom is the singular difficulty of the movements. If she is asked to move an arm, to lift an article from the table, she refuses; if the doctor insists, she says, "I cannot do it". She tries again and again, perhaps for a quarter or half an hour. So with other actions and movements. At first sight, one suggests physical disease of nerves; but this is negatived by the peculiar effect of moral influences (or more properly mental influences), as attention, distraction, and the like. The trouble is essentially cerebral (and here be it said that, however modified in expression for convenience, the psycho-physical point of view is steadily maintained through all the studies,—"cerebral," for instance, being here associated with "mental"). Nor is the case one of "délire du contact," although it resembles that. "Ce qui est troublé, c'est le contact actif, le fait d'accomplir un mouvement pour atteindre l'objet." And the reasons for the hesitation are unknown to the patient herself. By similar and persistent elimination, Dr. Janet concludes that the trouble is primarily " un trouble psychologique qui porte sur la faculté motrice, sur les phénomènes présidant aux mouvements " (p. 8). The patient herself, not knowing this, explains her refusals of notion as due to disgust with objects, and gradually this disgust gives rise to a fixed idea. " En un mot, il y a un délire du contact qui est une simple idée fixe—et il y a un délire du contact qui est l'expression d'un trouble général de l'activité. . . . Le trouble du contact que présente Marcelle rentre dans cette dernière catégorie." The isolation of the fixed idea is not always so easy, as the subsequent cases show. Dr. Janet next proceeds to discover the detailed constitution of the fixed idea. It cannot be due to a general exhaustion of motor centres or loss of motor images; for certain motions are preserved,—automatic movements, like respiration, reflex movements of knee, eye, mouth, etc., secondary automatic or acquired instinctive movements, like change of position, scratching; habitual movements, like threading a needle, and, lastly, certain complicated movements, performed even against her will, as breaking objects, or tearing her clothes, or making caricature sketches on paper, or biting her nails, or the elaborate sequences of movements involved in varied efforts to commit suicide. One class of movements is not only not lost, but is distinctly exaggerated, namely, suggested movements. Movements that she cannot execute voluntarily, or on a mild request, she readily does on a firm command. Post-hypnotic suggestions are instantly carried out, even when the suggested actions are precisely the same as those requested in the normal state. On further analysis, it is found that habitual actions—that is, past volitions—are preserved ; anything involving fresh volition, that is novelty, fails. The essential fact, then, is *aboulia.* From analysis of the movements, Prof. Janet proceeds to " les idées fixes ". By watching the patient in various moods, sometimes semi-cataleptic, ending in tears, and by discovering her capacity for automatic writing, he was able to trace the fixed ideas to their origin. Certain " crises of ideas " occurred (p. 18). Sometimes there were hallucinations. She complained that during the crisis, or *nuage*, " on lui parle dans la tête, que sa tête parle constamment ". The basis of this hallucination is a disturbance of the psycho-motor mechanism of speech, the voice being none other than the patient's own. The phenomenon here, Dr. Janet maintains, consisted of " hallucinations kinésthesiques verbales ". The term " kinésthesiques " conveys a less disputable meaning than " sens musculaire ". By further examination, the " voices " were found to be associated with ideas of persecution, certain forbiddings to do this or that, and all these had their origin in some episodes of the past life, being, in fact, mainly repetitions. For instance, the command by the " voices " to " die " and " not to eat" were really memories of desperate resolutions taken some years ago. "Aujourd'hui ces idées se reproduisent sans lien entre elles et sans raison" (p. 25). We thus arrive at "psychological automatism"—reproduction of the past, without actual synthesis relative to the given situation. To relate these ideas to *aboulia*, Dr. Janet, after criticising M. Paulhan's explanation—"*association par contraste*"—concludes that there must exist further intellectual trouble and analyses the perceptions,—including intelligence, memory, imagination. As with movements, so here, the result is "incapacité de synthétiser les impressions nouvelles, qu'elles viennent du dedans ou du dehors" (p. 48). Following on this, there is great division of personality. "Chaque idée fixe forme une sorte de personne qui n'a aucune pensée, aucun souvenir en dehors de la pensée dominante" (p. 60). The displacing of some fixed ideas by others, the revealing of stratifications of fixed ideas, the general improvement under treatment, all tend to verify the hypothesis of primary exhaustion, followed by defective synthetic power, and dissociation. The detailed justification of these positions would take too much space to summarise; but the case illustrates all the leading principles of the volume.

Here the terms that demand analysis are such as synthesis and neurosis. Every integration of elements into an operative organisation is synthesis, whether the elements be physical or psychical. But Dr. Janet intends rather to express the power of concentrating idea-systems for an object, and perhaps his meaning is almost expressed by the term voluntary attention. Let this power lapse and dissociation follows. The term synthesis, however, is so mixed up with purely metaphysical associations that it is apt, in psychology, to convey something more than psychological terms, as such, have any title to convey. The instances given are enough to show that Dr. Janet is thinking steadily in the province of positive psychology, not in the province of metaphysics. Then as to neurosis. That mainly "functional" disorders are chosen, that partial or total, temporary or permanent, restorations of function are possible in the cases chosen, and that the apparent loss of function is frequently shown to be only the submerging of the function, all tend to indicate that neurosis may be taken in its accepted meaning—disorder of function without permanent disorder of structure. The line that divides the two disorders cannot be drawn *a priori;* it must be inferred from the kind of result got in analysis and treatment. After all, structure, in the ultimate analysis, is arrangement of elements—nerve elements, neurons, associating fibres, neurogleia, etc., and function is the working of just this arrangement so long as it has elasticity enough always to recover itself. If the elasticity disappears, the function lapses; but then can the structure be any longer regarded as just the same? Where by no imaginable process of stimulation, or righting of mechanism, is the elasticity to be restored, as, *e.g.*, in degeneration of motor centres from a blood-clot, there the functional disorder ceases to be the result of neurosis simply; it is then the result of an organic lesion. One of the features of these two volumes is the superb skill shown in discriminating between the mental concomitants of organic lesions and those of mere neuroses.

In chapter ii., Dr. Janet discusses the methods of measuring attention. The essence of his case against accepting reaction-time as a measure of attention is that it fails to discriminate between reactions of absolute inattention and reactions of very acute attention. The extremes meet and so the measure fails. The demonstration of this by the method of graphics will not be easy to refute. Dr. Janet shows that it is quite possible, without apparatus, to arrange graded tests of attention, and he insists on the necessity of minute description of mental states during the experiments. In general, his method of graphics succeeds in showing a very clear difference between the reactions of subconsciousness and those of consciousness. "En mesurant les temps de réaction, on a plus souvent qu'on ne le croit mesuré des phénomènes automatiques. . . . L'attention ne se borne pas à maintenir une image présente dans l'esprit, mais elle travaille encore à combiner cette image avec les autres, à constituer des synthèses qui deviendront plus tard le point de départ d'un nouvel automatisme" (p. 108). Hence the necessity of critical combination of mathematical and descriptive methods. This is an excellent chapter.

Chapter iii.—"L'amnésie continue"—is the reproduction of a communication to the Congress of Experimental Psychology held in London in 1892. Dr. Janet here applies his method to memory. The special "maladie de la mémoire" here investigated is that "les malades deviennent, à partir d'un certain moment, incapables d'acquérir de nouveaux souvenirs" (p. 110). This condition is named "amnésie continue," since it persists during the life of the patient. The most interesting feature of the chapter is the graphic method of recording the phases of amnesia in relation to the total personality. The condition is distinctly traced to emotional shock, followed by fixed ideas, primary and derivative. The hypnotic state is the revealer of the true beginning of dissociation. "La maladie décompose et analyse mieux la mémoire que n'a pu faire la psychologie" (p. 135). Besides conservation and reproduction, "il faut qu' une sorte de synthèse réunisse les sensations produites et les rattache à la masse des idées antérieures, des sentiments passés et présents, de la coenaesthésie actuelle dont l'ensemble constitue la personnalité" (p. 135). To this, Dr. Janet gives the name "perception personnelle," or "personnification," and the notion plays a very large part in all the investigations. The detailed correlation of "amnésie continue" with the fixed ideas is as elaborate as in the case of *aboulia*, and contains a multitude of psychological "asides" that do not admit of summary. The fixed idea disturbs the sleep, distracts the attention, and exhausts the brain in a way to provoke the continued affection of "la perception personnelle" (p. 142). Psychological treatment based on this hypothesis resulted in partial improvement of some cases. The improvements, temporary and permanent, are admirably expressed in the graphics. Curiously—and this is a problem by itself—the progress made in one case during waking hours was always lost again during sleep (p. 154).

Probably the most elaborate of all the analyses is chapter iv.—"histoire d'une idée fixe" (pp. 156-212). This case illustrates well the stratification of fixed ideas, one layer being derived from the other. To separate primitive from derivative is extremely difficult; but by steadily keeping to his method of minute observation and correlating every word and movement with the personal history, Dr. Janet succeeded in unveiling the history of the fixed idea of "choléra". By gradual displacement of syllables,—and the patience of the process is not less than the ingenuity,—he succeeded in breaking the power of this sound to cause hysterical convulsions. But the great difficulty was to keep the secondary fixed ideas from entering, like the seven devils, into the empty mind. A certain improvement did take place, suggestibility being reduced (p. 199).

Not less interesting is chapter v.—"Les idées fixes de forme hysterique" (pp. 213-233). The cases go to establish the existence of subconscious fixed ideas, manifested only in dreams or induced somnambulism, automatic writing, or the like, but still capable of initiating "crises". The hysterical form of fixed idea is held to be the simplest (p. 232).

In the next three chapters—vi., vii., viii. (pp. 234-353)—Dr. Janet makes a minute study of certain forms of perceptional and muscular affections in hysterical subjects. In chapter vi., the problem of allochiria is analysed. Without claiming to offer an exhaustive explanation, Dr. Janet concludes that "simple allochiria" is really due to misinterpretation of local signs, these being affected on account of anæsthesia or hypoæsthesia (p. 255). "Complete allochiria," he suggests, grafts itself on to the other form as a result of a pathological habit (p. 262). The problem of right and left in perception has always been difficult, and some of the observations here will certainly assist in the solution. In chapter vii.—a case of hysterical hemianopsia—the chief interest lies in the demonstration of the varying limits of the conscious visual field, the persistence of subconscious vision, the varieties of the anæsthetic areas, the corresponding variations in the field of consciousness and the restorations of sensation possible in the hypnotic state. "Nous avons affaire ici, en résumé, à un phénomène qui a été jusqu'ici peu observé, la détermination d'une forme de champ visuel par l'idée fixe" (p. 290). It is little wonder if those cases of the major hysteria puzzle the alienist, when "retrécissements du champ visuel, douleurs localisées singulièrement, des contractures de forme étrange, des parésies" (p. 290) can all be exhibited as a sequence that begins in a fixed idea due to exhaustion of the cerebral centres. "De plus en plus l'hystérie est la grande simulatrice, comme le disait si souvent Charcot" (p. 291). In chapter viii. these "contractures, paralysies, spasmes des muscles du tronc chez les hysteriques" are made the subject of yet more minute functional dissection, and the leading concept of dissociation is again shown to run everywhere. The physiological methods are objective and the results can be verified by any other observer. In particular, the value of respiration and spasm of muscle-groups as indicating psycho-neural changes is made abundantly manifest by exact tracings (pp. 328-340).

In the remaining chapters of volume i., we return to the more strictly psychological order of analysis. In chapter ix.—"insomnie par idée fixe subconsciente"—a somewhat strikeing instance is given of insomnia due to a persistent dream, which is absolutely forgotten immediately on awaking. The sequence of tests that revealed the origin of this insomnia has all the charm of a romance. The insomnia, which no ordinary form of treatment could touch, is found to be only a secondary phenomenon (p. 372)—being but the conclusion of a terrifying dream. Not all hysterical insomnias are susceptible of this interpretation; but, in the particular cases, once the fixed idea was discovered, or, rather, recovered, in the hypnotic state, it was dealt with, disintegrated and dissipated; the result being frequently restoration to normal habits of sleep. The effect of submerged dreams, the nature of sleep, the relation of amnesia to insomnia, and other similar matters are here discussed with much acuteness. In chapter x., we have an account of a case of "possession and modern exorcism". Objectively, the sequence of phenomena appears to be a case of ordinary saturnine mania, with delusions and suicidal tendency. After investigation for weeks, the sequence was revealed as remorse following on some moral lapse, consequent shame, silence, hallucinations of punishment, death, and possession by the devil—all in an unstable nervous constitution. The way that Dr. Janet succeeded in establishing actual correspondence with this "devil"—a specimen of the writing is given—and the way he ultimately exorcised him, reducing him, indeed, to mere dissociation and fixed idea, read more like a well-concerted effect by Cagliostro than like sober science; but the analysis falls strictly within his method and the functioning of disordered mind is correlated in detail with the normal. An account of subconscious hallucinations and divination by mirrors is given in a separate chapter. The volume ends with a most important chapter on "the influence of somnambulism and the need, or desire (*besoin*), of direction" (p. 423-480). In this, the ethical as well as the psychological relations of hypnotism and the susceptibilities of hypnotised persons are carefully canvassed. The chapter is, in some sort, a focussing of the leading principles of the whole volume: rapport, suggestion, influence somnambulique, passion somnambulique, pensée persistante de l'hypnotiseur, besoin de direction chez les douteurs, la maladie de l'isolement, influence d'une affirmation d'étrangère—indicate the topics treated.

I have left myself little space to deal with volume ii., which is a conjoint production of Dr. Janet and Prof. Raymond. The principle difference between the two volumes is that the first is given up more to expositions of general principles, the second is given up more to description of cases as illustrations of those principles. The volume covers a very extended area of mental diseases: mental confusion—primitive, secondary and periodic; the *aboulias*—also primitive, secondary and periodic; the deliriums of the cænæsthesis—loss of the feeling of personality; the emotional deliriums—systematised, permanent and generalised; obsessions and impulsiveness—hysterical and other; varieties of sleep; the somnambulisms, fugues; diseases of sensibility—anæsthesias, dysæsthesias—simple and complicated; tremors and choreas; tics—hysterical and psychasthenic; paralyses—systematic, localised and hysterical; contractures; affections of language; visceral spasms; vaso-motor and trophic affections. Some notion of the amount of labour involved in these "leçons cliniques du mardi," may be gathered from the fact that 152 cases are minutely analysed and discussed. And, like the first volume, this is admirably clear and precise in writing and in arrangement. Probably the most striking discussions are on the somnambulisms and fugues (chap. vii.), where the whole process of the subconscious apperception of fixed ideas is dissected and laid bare. By whatever name we shall ultimately agree to call this kingdom of the subconscious, its existence and organisation are henceforward facts to be explained, not hypotheses to be speculated upon. The whole range of problems dealt with by the Societies for Psychical Research are dealt with here by a method that justifies itself at every hand, and if I have said so little in criticism of details—and many points offer—it is because I have been so profoundly impressed not only with the large mass of material, but also with the persistent scientific industry and competence of the observers. In fulfilling the canons of the great Charcot-tradition, they have set a pattern to the world. Of the facts in Dr. Janet's former work, Prof. W. James said: "All these facts, taken together, form unquestionably the beginning of an inquiry which is destined to throw a new light into the very abysses of our nature" (*Prin. of Psych.*, i., 211). It is not too much to say that this great work of Dr. Janet and Prof. Raymond is a fitting sequel to that brilliant beginning.

W. LESLIE MACKENZIE.

Les Principes d'une Sociologie Objective. Par ADOLPHE COSTE, Ancien président de la Société de Statistique de Paris. Paris: F. Alcan, 1899. Pp. iv., 243.

THE avowed object of this essay is "to react against the rising flood of psychology which threatens to invade sociology and to confound it with the moral and political sciences". Sociology, the author maintains, is "a science of facts which may very usefully serve to control the science of ideas, but on condition of being independent of it" (p. 1). Its basis must not be psychological and subjective, but objective and "*expérimentale*" [= experiential]. M. Coste wishes to bring back the science to the "positive" character which its founder Auguste Comte sought to give it. He is, however, by no means a blind and uncritical disciple. He modifies considerably the "encyclopædic series of the sciences"—that famous classification, which he considers Comte's greatest philosophical conception (p. 52); he alters still more the form and meaning of the "law of the three stages"; he excludes from sociology a great deal that Comte included in it, and he seeks to keep it clear of misleading physical and biological analogies. Yet he holds that such changes are in accordance with the true spirit of Comte's thinking. "Towards the end of his life the positivist philosopher was led to complete his original series of sciences, which ended with sociology, by adding a seventh science: *La morale ou l'anthropologie*," the division between ethics and sociology being not less real nor less important than that between biology and sociology (p. 52). Littré pointed out that psychology and æsthetics had as good a claim as ethics to be recognised at the end of the scale; and M. Coste proposes to group them all together under the general name of "Ideology"—a science that exists as yet only in a fragmentary condition (p. 55). The table of fundamental sciences thus admits of rearrangement in a symmetrical scheme of three trilogies: (1) The Mathematical Sciences, *viz.*: Arithmetic (or, more widely, the Science of Pure Quantity), Geometry, Mechanics; (2) The Physical Sciences, *viz.*: Astronomy, Physics, Chemistry; (3) The Organic Sciences, *viz.*: Biology, Sociology, Ideology (p. 56). These last three deal respectively with "the living organism," "the social organism," "the mental organism" (p. 43). The method of the science of pure quantity is *deduction*, observation coming in only to a small extent in geometry and even in mechanics. Astronomy, on the other hand, is the most perfect example of a science of *observation*. In Physics we have *experiment*, and in Chemistry we have the *reversible experiment*. Biology introduces the *comparative method*. Sociology is chiefly dependent on the *historical method;* and Ideology (in spite of Comte) is in great part dependent on the *subjective method*, or rather on an *objectivo-subjective method*. This chapter (vi.) on method is interesting, and has been considerably influenced by Mill's *Logic*. But the discussion is rather brief and abstract. The author remarks in his preface that scientific discoveries are not made by means of methodology (p. ii.), which is quite true. But as the book before us treats of "principles" (the detailed examination of sociological problems being reserved for a future volume), a fuller discussion of method might have been expected, especially as the distinction drawn between sociology and ideology is fundamental and may seem to need express justification.

"There are," we are told, "two orders or classes of historical facts—the one set of facts correlated with one another and with the growth of population; the other set without any regular filiation or exact correlation with the condition of society, because they are due to the impulsive originality of great individuals." To the first order the author assigns the facts relating to government, to economic production, to religious belief, to social solidarity. To the other group he relegates "the fine arts, poetry, philosophy, pure science, sublime sentiments, heroic acts". Utilitarianism marks the first group, idealism the second (pp. 5, 6, 235). The facts of the first group, moreover, are always special to a race or a nation and change with its changes. The facts of the second order are neither as special nor as variable; they suit, more or less, all races and all countries (p. 7). Now there is clearly a distinction between (1) those actions, sentiments and ideas which are generally diffused through any particular society, and which are closely bound up with its cohesion as a society, and (2) on the other hand, the sporadic "bye-products" of exceptional individual brains. There is also a distinction between the actions, ideas, etc., which can be "imitated," or transmitted from one society to another, and those which cannot be assimilated by other societies at all, or not without undergoing serious modification A proposition in Euclid, for instance, may be apprehended by an English school-boy of to-day exactly as it was apprehended by a Greek youth of two thousand years ago; but even the most cultured student of antiquity can only partially, and by a great effort of imagination, put himself outside his own social and intellectual environment so as to read a Greek tragedy, or look at a Greek statue, in the emotional mood to which it originally appealed. M. Coste has given no sufficient justification of the particular line of demarcation which he draws. The painting, the poetry, the philosophy—and even to some extent the science—of a people are national products and correlated with the rest of the national life quite as much as the forms of religious belief, which may be borrowed by one people from another and, in the case of all the higher religions, are largely international in character. On the other hand mechanical inventions are "utilitarian," and directly subserve "social interest"; as such they must be placed in M. Coste's first group (except in so far as they lead on to theoretical science). Yet they are individual in their origin almost as much (and as little) as the fine arts, and they are certainly more capable than the latter of being fully appreciated and imitated beyond the national frontiers.

The distinction drawn by M. Coste seems (if a psychological explanation may be suggested) the outcome of his own special studies. He is a statistician, and he is therefore inclined to leave out of sociology what does not admit of quantitative measurement.

As he says himself (p. 10), fine art, poetry, virtue, heroism and metaphysics are "excentric," and their phases escape calculation. But the difference between them and mechanical contrivances or religious beliefs is surely one of degree. It is indeed strange to find an adherent of the "positive" philosophy treating intellectual development as if it were not at all dependent upon the social environment. "La race, l'époque, le milieu ne sont pas, comme on l'a prétendu, les facteurs de la production intellectuelle" (p. 13). They are not *the* factors, *i.e.*, the sole factors; but they may be factors for all that. Having laid down an abstract distinction, M. Coste here, as in other matters, goes on to admit qualifications. He allows, *e.g.*, that architecture, the writing of history, jurisprudence, are in many ways related to the utilitarian arts and are therefore not independent of political and social conditions. (p. 15).

The important truth underlying M. Coste's distinction of ideology from sociology seems really to be this, that a very large part of the events dealt with by history, and what some may think the most interesting part, are the outcome of individual genius, of individual caprice and passion, of what (in our ignorance) we call chance or accident, and cannot therefore be brought under the generalisations of the sociologist or fitted into statistical tables. M. Coste himself suggests a definition of history, which marks well his difference from Mr. Herbert Spencer: "the picture of the intervention of great personalities in the development of social forces" (p. 11), or, as he puts it elsewhere, "the embroidery of chance on the sociological canvas" (p. 190). But it is one thing to recognise that history cannot be merged in sociology: it is another to attempt to draw a hard and fast line between the "individual" and the "social" factors in human evolution.

Again, if it be admitted (as against Comte) that it is important to distinguish psychology, ethics and æsthetics from sociology, it is most unscientific to restrict psychology, as M. Coste's classification does, to the higher phases of man's intellectual development. The ordinary feelings and sentiments which are involved in "sociality" require psychological investigation, and must be taken account of by ethics and to some extent by æsthetics also, as well as the conscious reflections of the scientific thinker and the conscious ideals of the hero, the saint or the artist. If M. Coste had limited himself to arguing that it was better to place sociology before, than after, psychology in the hierarchy of the sciences, his position would have been less assailable. He shows very well (p. 82) that Mr. H. Spencer's arrangement, which places psychology before sociology, results in "an exaggeration of individualism and of its influence on society". In other respects, however, M. Coste seems hardly quite just to the merits of Mr. Spencer's classification of the sciences, which is made on a different (and perhaps a safer) basis than Comte's.

Into Comte's "law of the three stages" M. Coste introduces very great modifications or "attenuations". "The law," he says, "does not seem applicable either to the whole range of social activities or to all peoples" (p. 87). It applies only to intellectual development, "or, to be more precise, to the evolution of belief" (*la croyance*). For Comte's terms "Theology, Metaphysics, Positive Science," M. Coste substitutes "Biomorphism, Sociomorphism, Rationalism"; and he connects the law with the three kinds of Organic science. Biomorphism consists in animating all objects. It is the rule of *instinct*, the stage at which human societies are close to animal societies. Sociomorphism (a barbarous word, but authorised by the precedent of "Sociology"—*cf.* p. 89, *note*) consists in introducing into nature customs and *tradition*. The government of the world is now pictured on the analogy of the government of the city, of the federation or the Empire. This is the epoch of hierarchical polytheism, of "architheism" (*i.e.*, the recognition of one chief god, sovereign over others), of monotheism, and also "of that metaphysic which disguises His divinity under the names of The Absolute, The Infinite, The One Substance, The Unknowable". "Rationalism, finally, consists in seeing in nature the objective reason of which our consciousness is the subjective form; it is the final identification of being and knowing (to follow the Hegelian formula), the relativism of Comte, the universal determinism of Claude Bernard." "Instinct, Tradition, Law, such would be the actual translation of the formula of Auguste Comte" (p. 90)—a free translation, it must be admitted. The foregoing abbreviated extracts will show how far M. Coste has deviated from the rigid positivist doctrine. Moreover, he recognises that though society as a whole may pass from one stage of belief to another, and from one type of social institutions to another, the older stages continue to survive (pp. 144-149); and he sees no advantage in hastily attempting to reach the final stage. He considers "demi-rationalism," such as is represented in the liberal Protestantism of England and America, much better adapted to the existing condition of knowledge and more favourable to social solidarity than the pseudo-rationalism which confronts Catholicism in France (p. 214).

On the more purely sociological matters (apart from questions of method), which occupy a large part of the volume, little can be said here. M. Coste finds "the force which serves as the efficient cause of progress" (he appears to assume that there must be *one* such force) in "the inevitable increase and progressive concentration of population" (p. 103). By this, however, he does not mean that the society with the densest population is always the most highly advanced. "Social progress depends upon the increase of population subjected to a common discipline (p. 123). "It is unification that matters much more than numerical increase" (p. 154). In working out his formula, M. Coste resorts to facts which can be quantitatively and "objectively" estimated. Applying "rational sociometry" to the leading states of modern times (and he holds that it is with the best known societies, and not with primitive savages, that the sociologist should deal), M. Coste compares (*a*) their absolute populations; (*b*) the numbers in each nation which live in large towns; (*c*) the proportion of those living in large towns to the total population. The various tables give very different results. A final table is compiled by combining (*a*) and (*c*)—the comparative numbers being multiplied together. (There is, by the way, an error in the calculation of the figures for Great Britain on p. 174.) Table *a* alone would put Russia at the head of nations, but a combination with table *c* puts Great Britain at the head. These statistical results M. Coste finds confirmed by a comparison of Great Britain, France and Germany (or rather Prussia) in respect of government, economic production, religion, etc. In every *social* respect Great Britain comes out first (in purely intellectual matters M. Coste would not rank us so high; but then he has excluded them from sociology). His conclusions are flattering to our patriotism. It is, therefore, in no spirit of national jealousy that one wishes some Socrates would arise in France to put troublesome questions to her fluent sociological writers with their complacent antitheses and calm trust in the category of quantity as supreme. Statistics are "objective," certainly; but they only apply to a limited range of matters. And do not their interpretation and the correlation of them with facts that cannot be easily measured depend much on the "subjective" judgment of the individual? What is the standard for "unification" or for good government—other than mere increase of population? Is the concentration of population in large towns altogether a mark of progress? Even M. Coste seems to have his doubts (p. 175).

The concluding chapters apply the *art* of sociology to the interpretation of history, to a criticism of the present social condition of France (a very unbiassed chapter) and to a cautious forecast of future changes and a discussion of the way in which society can be modified by conscious human effort. All these discussions are interesting and suggestive, though the value of them is perhaps due less to the "objective sociometry" which M. Coste rates so highly, than to his own "subjective" insight as a critic of complex social and political phenomena.

D. G. RITCHIE.

La Nouvelle Monadologie. By CH. RENOUVIER and L. PRAT. Paris: Armand Colin, 1899. Pp. 546.

To those who continue to regard philosophic speculation as an activity of man's rational nature, no phenomenon is more puzzling to explain than the persistence with which the majority of philosophers continue to offer as the ultimate truth of metaphysics a solution of the problem of life which breaks down *ab initio*, and in the most obvious manner, which leads to no valuable results or convenient methods, and into which no ingenuity of the greatest intellects has been able to introduce the least element of novelty and progress. For from the earliest days when the Eleatics of the West and the Brahmins of the East first enunciated it, the dreary doctrine that 'it is all one' has maintained its unity in the diversity of its manifestations and admirably illustrated the dictum *plus ça change plus c'est la même chose.* Monism has exercised over men's minds a fascination the more remarkable by reason of the ease with which its difficulties could be apprehended, and obviated by the rival hypothesis of pluralism. If all things are one, then there is nothing but the nature of the One itself to account for all that all things are, and if these do not please us, it is hopeless to protest or complain or reform. All distinctions are really indifferent to and incapable of reaching the immutable and ineluctable unity of the world's essence, and this common doom overtakes also the distinctions of good and evil, right and wrong, pleasant and painful, which form the practical necessities impelling us to reflexion and forcing us to re-think our experience. The ambiguous dictum 'it is all one' is thus necessarily the Alpha and Omega of Monism in practice as well as in theory. Pluralism on the other hand leaves at least some specious ground for the thought of a real struggle, for the hope of a real victory, whereby the experience of finite beings may be 'remoulded nearer to the heart's desire'. And yet the possibilities of this solution have never really been fully explored and systematically discussed; the terrors of monistic tradition have nearly always driven back even the boldest from the tabooed territory, and kept the crowd in the sterile paths strewn with the dry bones of dead philosophies, which at best conduct to the extinction and absorption of all things in the cold clutches of an inhuman unity of the universe.

The truth of these remarks is most instructively exemplified by the fate of Leibniz. Leibniz, who had every qualification for philosophic greatness except courage, had marked hankerings after pluralism. At his magic touch atomism blossomed into monadism, and monadism has ever since remained the only philosophically respectable form of pluralism. But Leibniz himself had not the courage to enter the promised land, and to dispel the bogies which were supposed to haunt it. By profession a courtier and by temperament a conciliator, who if he had happened to be born a Parsee would doubtless have devoted his life to the reconciliation of Ormuzd and Ahriman, he only erected a monument which faced both ways. His monadology is still the great landmark on the road to pluralism, but the true pluralist must resolutely pass beyond it and disregard the palimpsest inscriptions graven upon it, which would only conduct him back to the monism from which he seeks to escape. The infinity of God and the world, the absolute determination of every event, the infinite number of monads and their dependence on a central unity in whose magic mirror they discern the workings of the world, are incompatible with a pluralist reading of the monadology, and more than enough to demolish the very conception of the monad.

Hence, whosoever would start from Leibniz to penetrate the unexplored possibilities of pluralism must first of all correct him in these points and write a new monadology. This is the service MM. Renouvier and Prat have rendered to philosophy. The *Nouvelle Monadologie* may be taken in addition as a gratifying proof that age has not dimmed the keenness of M. Renouvier's insight, the breadth of his interests, the ripeness of his judgment, the sincerity of his convictions, and, perhaps I may add, the austerity of his virtue. For though it is evident that the clouds on the spiritual horizon appear to M. Renouvier very many and very black, he manages to surround himself with an atmosphere of pure moralism which cannot but be salutary in a France which seems bent upon leading civilisation on the downward path of decadence. Let us hope, therefore, that the voices of those crying in the wilderness will not die away unheard, but will avail to forearm as well as to forewarn. At all events none can read MM. Renouvier and Prat's book without respect, though the amount of profit and interest found in it will perhaps be proportionate to the reader's antecedent sympathy with the authors' purpose and tendencies of thought. The present reviewer is so sensible of such sympathy, and of the interest MM. Renouvier and Prat's discussions have consequently excited, that he is specially bound to recognise the fact that a monist of the traditional type might judge quite differently. And indeed he might reasonably require to be argued with more fully and with more deference to the prevalence of his opinion in the world of thought. The *Nouvelle Monadologie*, unfortunately, is not distinguished by persuasiveness in its polemics. It is too dogmatic and the notes at the end of each section, though full of striking criticisms, are too meagre to erase this impression.

Faults may also be found in the method of presentation. The absence of a preface baffles curiosity as to the respective contributions of the two collaborators. The ordering and sequence of the 141 sections of which the work is composed is not always very obvious, and in the text no hint is given of the subject treated in them. The table of contents might advantageously be expanded and an index would have been a great boon.

But to pass to the characteristic features of MM. Renouvier and Prat's doctrine, it has already been remarked that for the most part they follow logically from their clear perception of the fact that Leibniz's monadology must be amended if it is to remain a monadology. So in reliance upon the principle of relativity they decisively reject absolutism in every form. The reality of infinity is denied substantially on the grounds stated in Kant's antinomies.

The pre-established harmony consists merely in the fact that the order of nature keeps each monad informed of what is happening in every other, according to regular and necessary sequences. Its conception is only a more precise analysis of causality, not a rival to it. Yet the monads are also free; *i.e.* (within their own peculiar limits), each can initiate completely spontaneous acts ("*purs accidents*," p. 50) the consequences of which are regulated by the pre-established harmony. In this they only follow God's example whose creation of the world was such an act of will. For the rest He is the author of the pre-established harmony, and the supreme Person (*not* in the illusory sense of the Athanasian metaphysic). He is consequently finite, being limited by the personality and freedom of the monads. But only the finite can be perfect (p. 463), though (p. 464) the creature must not be allowed to become as perfect as its creator (surely a curious relic of mediævalism this, which shows that M. Renouvier's is still a jealous God!). Hence the explanation of the reality of evil, which baffled monism, and a vindication of the divine goodness and providence; evil is due to human freedom. It follows that the present system of the world is the result of a fall (the unjust aggression of some monads leading to a demolition of the cosmic equilibrium and the aggregation of vast masses which man can no longer control), and contrasts painfully both with the perfect order before the experience of evil and the still higher perfection which God may be trusted hereafter to establish.

The religious tone and aims of this theodicy are obvious. But in spite of their agreement with the spirit of Christianity, MM. Renouvier and Prat are clearly disposed to despair of reforming its traditional form. They claim to have preserved its chief doctrines, but they propound (pp. 533-35), a formidable and outspoken list of dogmas which are "all contrary either to reason or to morality".

It is clear that the theistic monadism of this doctrine goes pretty far in the direction of pluralism. Nevertheless it may be doubted whether it goes quite far enough to be really secured against the *reductio ad absurdum* of a reabsorption by the One. These doubts apply to its solutions both of the problem of evil and of the problem of causation.

In the first place, granting that the final aim of Philosophy is to construct a theory of life which will serve as a theodicy (or rather as a *cosmodicy*), it seems doubtful whether the measures advocated are sufficiently thorough to relieve God from the assumption of "the ignominious guilt of having made such men in such a world". To make a world free to go wrong, which goes wrong so completely as ours, hardly seems the part either of goodness or of wisdom. And why must the *posse peccare* which is needed to constitute freedom necessarily result in actual sin, of which the potentiality would have done, psychologically, just as well? Again, if actual sin is necessary, will it not remain possible after any amount of experience, and so constitute an insuperable menace to any doctrine of complete redemption? The truth seems to be that so long as absolute creation is attributed to the deity the monads cannot be rendered independent enough not to pass the burden of evil on to their creator. It is better, therefore, to assume an original plurality of the world's constituents, and to regard evil as due to the friction of a non-equilibrated universe which has not yet learnt to work smoothly and harmoniously. Then God can be good and good victorious, just because neither God nor good is all.

Secondly it is to be regretted that the *Nouvelle Monadologie* retains the name of the pre-established harmony. It always was a cumbrous and unnatural device, and it has now been whittled away to such an extent that the name can only mislead. And it contributes nothing to the solution of the problem of causation. For practical purposes we shall and must continue to suppose that things act on one another. For the purposes of the physical sciences the notion of a cause is a *caput mortuum* which only introduces perplexity into the manipulations of equations whereby we calculate the sequences of events. And for the purpose of solving the ultimate metaphysical question of how interaction is possible at all, all theories are equally impotent (because equally invalid), and the pre-established harmony is no more successful than the transeunt cause or the unity of substance. For it explains the apparent interaction of things by a miracle that adds nothing to our knowledge and our comprehension; and moreover involves transeunt causation which it was intended to avoid, as between the deity and the monads. The monistic explanation by the unity of the universe, is, it may be added, just as impotent; for we can as little explain the changes in A's states as the action of A upon B. It is fortunate, therefore, that the problem does not really stand in need of solution. For it really reduces itself to the question why anything exists at all, and that question is admittedly illegitimate. Granting, however, that existence must ultimately be factual, it can easily be seen that its constituents must be in interaction. For otherwise no world can result, which is contrary to fact.

An appreciation of this situation would not only relieve the monadology of the pre-established harmony, but will also serve to defend it against the charge certain to be brought against it, of ultimately deriving the world from irrationality, in this case an irrational and arbitrary act of creation. To this charge pluralism can confidently retort with a *tu quoque*. For by monism also existence must be accepted as initially factual, while the unity of its principle renders the subsequent conflict of phenomena profoundly irrational. Evil is theoretically unintelligible because practically insuperable. For the vice from which we suffer is of the substance of the All and therefore incurable. Pluralism on the other hand is not compelled to regard the perversity of things as all-pervading, nor the Devil as an accredited manifestation of the Absolute ; it can regard evil as partial and eradicable and so deny that the factual is as such the irrational. But, as I remarked before, all this needs working out and will bear it : meanwhile we may accept MM. Renouvier and Prat's new monadology as a welcome advance towards a satisfactory pluralism.

F. C. S. SCHILLER.

IX.—NEW BOOKS.

A Brief Introduction to Modern Philosophy. By ARTHUR KENYON ROGERS, Ph.D. New York: The Macmillan Co. London: Macmillan & Co., 1899. Pp. viii., 360.

As a first book to be placed in the hands of the beginner in Philosophy, this little work is in every respect admirable. The key-note is struck in the first words of the preface: "The following pages have been written with a definite aim in view. This aim has been, in as untechnical a way as possible, and with as little presupposition of previous philosophical training, to show how the problems of philosophy, which are apt to seem to the student on his first introduction to them rather arbitrary and unintelligible and with no very apparent relation to the concrete interests of life, in reality are not manufactured problems, but arise of necessity out of any attempt to understand the world and to appreciate the value which belongs to human experience." We believe that Dr. Rogers has succeeded in accomplishing the task which he has set for himself. He begins by pointing out that a Philosophy is simply a connected view of life as a whole, and a certain practical attitude towards it. Its aim is to "do thoroughly and in full consciousness of itself, what in popular thinking we do in a loose and unsystematic fashion". The author then proceeds to expound and to compare critically the main theories which have been advanced by various philosophers. At the outset he discusses "Dualism, Pantheism and Theism". Dualism is condemned on the ground that "any two things which are taken to start with as separate from each other necessarily require some larger conception if they are to be brought into relation, for a relation implies that, after all, they do come within some kind of a unity". Pantheism either "puts the reality back of finite things which are merely its manifestations: or it identifies reality with the finite things taken collectively". In the first case, it cuts the unifying principle from the things which it is supposed to unify; in the second it yields "no unity at all, but only a jumble of conflicting particulars". If a third alternative is adopted and particulars are treated as illusive appearances, Pantheism denies the very facts which it endeavours to explain. The author's own Philosophy is a form of Theism, which is only developed gradually as the book proceeds so as to lead up to the final chapters in which it is explicitly expounded. At the outset Dr. Rogers paves the way for his own positive teaching by a criticism of the form of Theism which passes current in ordinary theology and common-sense theories, as the semi-official philosophy of religion. This leaves us with "three distinct factors—material things, conscious beings, and as a third reality which creates and directs them, God". Two difficulties are insisted on. The first is the unintelligible nature of the relation of matter to the Creative Spirit and to other spirits; the second is that on this view intelligence or design enters into the world-process "only in the form of a distinct or supplementary power". "Teleology only appears where mechanism breaks down." The difficulty concerning the nature and existence of matter is taken up in the next chapter, which deals with "Materialism and Subjective Idealism". It is shown that these theories both embody truths which cannot be surrendered, and that at the same time they are in irreconcilable antagonism if each is taken as a statement of absolute truth. The solution of the problems thus raised can only be solved by an investigation of the ultimate nature of knowledge and of its relation to reality. This leads to a chapter on "Rationalism and Sensationalism" followed up by a chapter on the attempted synthesis of these points of view in Kant and another on the developed Rationalism of Hegel. The treatment of Kant and Hegel is excellent both in regard to exposition and criticism. The vital points are brought into clear light, and all details which might confuse the beginner are ignored. After a chapter on "Agnosticism and the Theory of Knowledge," Dr. Rogers proceeds to develop what he takes to be the true Philosophy under the titles "Theistic Idealism" and "Scepticism and the Criterion of Truth". The main point of this Philosophy is the emphasis laid on teleological unity. The type of the unity of the universe is the unity and continuity of our own conscious striving towards the attainment of practical and theoretical ends. Dr. Rogers apologises for appearing to dogmatise by pleading the necessity of leaving a unified impression on the mind of the student. The apology was scarcely necessary. Dr. Rogers puts forward his own views as the result of an historical and critical survey of alternative theories which will enable the intelligent student to form a reasoned judgment for himself. In any case, the careful reading of this book will place him in a position from which he can proceed to the more detailed study of philosophy and of philosophical system to the greatest advantage. Dr. Rogers is to be congratulated on having condensed so much valuable matter within so small a compass. Compactness and lucidity are conspicuous merits of his work.

EDITOR (G. F. S.).

Studies from the Psychological Laboratory of Chicago. By JAMES ROWLAND ANGELL. Vol. ii., No. 2. University of Chicago Press, 1899.

These studies include two short, provisional reports and four longer communications reprinted from the *Psychological Review.* The first short report is by Prof. Buck on the overestimation of vertical as compared with horizontal lines. The overestimation was found to be slightly increased by placing the observer on his side so that the head and eyes were at right angles to their usual position. This is rightly regarded as an argument against the explanation of the illusion by eye-movement. The subject is, however, complicated by the possibility of the existence of compensatory swivel rotation of the eyeballs in the recumbent position, a possibility which the author does not mention. The subject and method are worthy of further investigation. The second short communication is by Dr. D. P. MacMiller, "A Study in Habit," in which the influence of wearing a prism before one eye on the co-ordination of eye and head was studied. No mention is made of the similar experiments of Czermak and Helmholtz.

Of the four reprints, the first is by Prof. Angell and Helen Bradford Thompson on the relations between certain organic processes and consciousness, in which a good critical account is given of previous work.

Experiments are then described, using the air-plethysmograph, which show mainly that the more intense and sudden is the stimulus, the more marked are the organic changes, and on the basis of this a theory is stated which refers the changes to the regularity or irregularity of the process of attention. No marked difference was found to distinguish the effects of pleasant and unpleasant stimuli.

In a short paper on "Habit and Attention" Prof. Angell gives an account of some reaction-time experiments, which show that there is a tendency for the muscular and sensorial forms of reaction to approach one another with practice.

The next paper is by Prof. Angell on the comparison of length as estimated by passive dermal stimulation with visual estimation. The normal underestimation of the former was found to be lessened, or even converted into overestimation by increase of pressure and by using hot or cold stimuli. Each of these factors was only studied on one individual.

The last paper is by M. L. Ashley on the significance of intensity of light in visual estimates of depth. The special point was to investigate the influence of change of brightness apart from that of distinctness, although in some of the experiments the latter factor came into play. In the monocular and in some of the binocular experiments, the arrangement which was employed excluded any other factor than that of change in brightness and in these increase of brightness led to an appearance of nearness, decrease to one of farness; the change in brightness was seen as such earlier than the apparent change in distance. In other binocular experiments, the binocular mechanism was allowed to come into play, and even in these experiments alteration of illumination was found to have distinct influence though the results were more uncertain and more individual differences were met with. The author does not say whether he tested his observers for the presence of binocular vision. The paper is an important contribution to the difficult problem of estimation of depth, and adds another to the so-called "experience" factors which have to be excluded in studying the physiological factors in this process. In Dixon and Hillebrand's experiments on this subject the arrangement used was such, however, that the factor in question cannot have had any appreciable influence.

W. H. R. R.

Mad Humanity: Its Forms, Apparent and Obscure. By L. F. WINSLOW. New York: M. F. Mansfield & Co., 1899. Pp. xix., 451.

The title of this book leads us to expect a popular account of insanity, rather than a scientific treatise. And the author's style is for the most part anecdotal and reminiscential, though he appears also to have had his serious purpose in writing. He believes that insanity is on the increase; that the degeneration of the human race is "in gradual and sad progression"; and that much of this result is due to indulgence in alcohol. He further urges Lombroso's theory that genius is akin to insanity. But his proof of this position consists merely in a list of geniuses who were more or less deranged: and one is tempted to inquire for the geniuses who were *not* insane. If genius is a form of madness, all geniuses should have been mad. Dr. Winslow writes from abundant personal experience, and his book may do the good he hopes for in enabling "some to detect the incipient progress of mental diseases". It is well illustrated.

The Physical Nature of the Child and How to Study It. By S. H. Rowe. New York and London: The Macmillan Company, 1899. Pp. xiv., 207. Price, $1.00.

This is essentially a practical book. The author describes simple tests, clinical, anthropometric and psychophysical, of the child's sight, hearing, other senses, motor ability, enunciation, nervousness, fatigue and habits of posture and of movement, and discusses the cognate topics of disease, growth and adolescence, and school and home conditions that affect the child's physical nature. The work should be useful; its occasional weakness in theory is more than offset by its generally sensible tone.

Educational Aims and Educational Values. By P. H. Hanus. New York and London: The Macmillan Company, 1899. Pp. vii., 211. Price, $1.00.

A series of eight essays, written with sound judgment but in a somewhat redundant style, upon contemporary educational problems. Chapters i.-v. attempt to formulate the aims of elementary and secondary education in America. "The aim of education is to prepare for complete living. . . . We have a common measure of educational value. Its factors are incentives and power." The remaining chapters deal with the professional training of the college-bred teacher, and with the permanent influence of Comenius.

La Dissolution. Par André Lalande. Paris: Félix Alcan, 1899. Pp. 492. Price, 7 fr. 50.

This volume is an attempt to show that the trend of progress is in the direction of homogeneity, as against Mr. Spencer's hypothesis of heterogeneity. The proof is mainly positive, and rests on a comprehensive array of facts drawn from every sphere of life and thought: the *a priori* aspect of the problem is not emphasised, it being felt—and we may admit rightly felt—that the burden of proof on this side lies rather with the adversary. M. Lalande's argument is too diffuse to be summarised here: one can only indicate some of the positions which he takes up. Mr. Spencer's Law of Evolution—he would prefer the term Involution—he regards as no law, but only a bad definition, and the principle of the permanence of energy appears to him, as to so many others, only a variant of the law of causality. He believes, further, that the individual is an elementary and not a higher unity, and that accordingly the State is the antithesis of the organism; as to the development of mind he hints, following Rousseau, that life has lost all that reflexion has gained. In what Wundt calls the normative character of all rational action consists its advance towards homogeneity, in the ideals, namely, of truth, beauty, and goodness, which constitute the ground of objectivity in science, art, and morality. M. Lalande goes on to deplore the crude methods of anthropologists, who deduce arguments as to the infancy of the race from customs of effete and senile savagery, and imparts local colour to his work by predicting the dissolution of the family, and the ultimate triumph of the principles of the French Revolution. In conclusion, he ridicules recent attempts to get beyond an anthropocentric teleology, and insists that in the order of nature death follows rather than precedes life, and that this being so death is an incontrovertible witness of dissolution.

The error of this book is in its presentation of results. The evidence adduced is overwhelming, but it is chaotic: the various threads of argument are not sufficiently gathered up and disentangled at the close; and we fear that either the author's dread of heterogeneity or his keen sense of the peace-making mission of philosophy has led him to underrate the controversial character of his work. As here presented M. Lalande's facts are only facts; hence the danger that M. Lalande's theory may remain only a theory.

E. A. Menneer.

La Tristesse Contemporaine. Par H. Fierens-Gevaert. Paris: Felix Alcan, 1899. Pp. iii., 195.

This essay is a study of the depression which the consciousness of social disintegration seems to have so widely engendered in France. It starts with a chapter on "*l'illusion scientifique*," and after a rapid historical survey of the history of thought from the eighteenth century to the present day, concludes with a chapter on Nietzsche. The author's remedy, however, for the malady he describes is by no means easy to discover. He is full of sentimental hankerings after the old Catholic faith, and declares in his concluding chapter "Il n'y a qu'un seul remède, pensons-nous, à ce malaise: la croyance religieuse. Seule, la foi peut guérir le monde." Yet a page or so later he declares this remedy to be impossible, and to require either a miraculous revival of the old religions or a new revelation, and gives as his final advice the command, "*Aimons et agissons*" (p. 190). What, we are not told; and as the attempt to discover its meaning might only add to contemporary sadness, we had best perhaps not pry into the pleasing vagueness of this dictum. The book is agreeably written, but this hardly justifies the daring disregard for dates which its combinations display. Thus Leopardi is represented as the founder of dogmatic pessimism (p. 56) and Schopenhauer as his successor (p. 62), while Napoleon (p. 39) is said to have been indispensable to the existence of Goethe! But the most audacious passage of this sort is one which makes (p. 70) Bentham a disciple of Comte. Yet tradition will have it that Bentham was born fifty years before Comte and died seven years before the latter published his *Cours de Philosophie Positive.*

L'Individu et la Réforme Sociale. Par Edouard Sanz Y. Escartin. Paris: Félix Alcan, 1898. Pp. 390.

This work is a translation from the Spanish and in the translator's preface we are given a short account of the writer. M. Escartin is it appears a very well-known and esteemed writer on social subjects among his fellow countrymen. The present volume is more in the nature of a collection of essays than of an organic whole. These essays cover a considerable field. Many of them are well meaning rather than original or profound. The general object of the book is to show what individual action can do in solving the social difficulties which surround us. The author considers that the individual is the foundation of all permanent social reform. His general criticism of modern socialism is that it is incompatible with liberty. Liberty is bound up with the existence of private property and progress is impossible without liberty. M. Escartin considers that the true line of advance is to diffuse property among all sections of the population. It is the more general diffusion of property which will redeem the masses from the triple servitude of ignorance, moral degradation, and physical misery. M. Escartin also insists on the fact that the social question is to a large extent a moral question. The miseries which afflict society are the result of our passions, our greed, our want of solid convictions, the troubles of the heart and mind. Although a devout Catholic, M. Escartin maintains that morality is not necessarily supernatural in character. The ordinary sense of the word has its roots in the laws of individual and social life, in the nature of society and man: it is the indispensable condition of his harmonious development and activity. On the whole the book is an interesting product of modern Spain. If the author can succeed in impressing his ideas on his fellow countrymen, the Spaniards may yet have a future before them among the peoples of the west.

Morale et Education. Par P. FÉLIX THOMAS. Paris: Félix Alcan. Pp. 171.

This little book is made up of ten essays which have already appeared in various reviews, but which have enough in common to justify their author in issuing them in their present form. From the educational standpoint the book is disappointing. The final chapter, covering eighteen pages, is all that is specially devoted to education. It is true that in addition to this chapter on "The Teaching of Morality" we have occasional references to education throughout the book. These, however, are mostly near the end of chapters, and are rather suggestive of afterthoughts. Of the purely ethical matter there is little that is new. On the other hand, the arrangement of the book is excellent. The style is eminently clear and finished, and if the book is intended for the use of teachers who are not assumed to have any special training in ethics it is eminently suited for its purpose. The various theories of morality are very clearly stated and admirably illustrated. No doubt M. Thomas assumes that his readers can make the educational applications for themselves if only he provides them, as he does, with an up-to-date statement of the position of the various ethical schools. The chapter on Individualism is very striking in its treatment of modern tendencies in France, the section on *le fonctionnarisme* being specially refreshing.

Le Régime Socialiste. Par GEORGES RENARD. Paris: Félix Alcan, 1898. Pp. 186.

M. Renard is a professor in the University of Lausanne and has a considerable literary reputation. In this sketch of the political and economic organisation of society Prof. Renard has contrived to put his ideas before the public with great skill and lucidity. It is an excellently written little book. He looks at the social question from two points of view, political and economic; and he attempts to show how the political and economic condition of society may be transformed by the application of certain general principles which are set forth in the first part of his book. These general principles are of two kinds—scientific and moral. The scientific principles are the laws of social evolution. All social progress must move along the lines marked out by these laws. The moral principles are, that every one should have free scope to develop his personal aptitudes and should be permitted to profit by the chances of happiness which nature has given him. On this basis M. Renard tries to construct a system which will reconcile justice and utility, individual liberty and a rational organisation of society.

Psychologie der Axiome. Von Dr. JULIUS SCHULZ. Göttingen: Vandenhoeck und Ruprecht, 1899. Pp. 232.

The present work has few merits except a lively and amusing style, and a clear statement of the views which it advocates. Since axioms must be defined by a logical criterion, the subject invites to confusions between logic and psychology; and the author does not refuse the invitation. The work should treat *either* of all that has psychologically held an axiomatic position, and of the causes of past and present opinions on the subject, *or* of the state of mind involved in correct views on axioms, in which case the most difficult inquiry would be the logical one as to what axioms are. The author, however, confuses the two inquiries, attempts both, and succeeds in neither.

Dr. Schulz's general position may be described as Kantianism modified by Sigwart. An inquiry into axioms is concerned with the forms of intuition and thought, which are purely subjective, and independent of the stimulus. Axioms are neither analytic nor synthetic; they are, in fact, not propositions, but postulates, innate habits of the soul, at least in man. At bottom, they depend upon the will; a pure intuition is not a describable object, but (!) an activity of the subject. To understand anything is to anthropomorphise it (*i.e.*, we might add, to pretend it is something else). What the world is in itself, we cannot tell, nor even whether Being has any objective meaning (a point, one would have thought, established even by Descartes' *cogito*). Not sensation, but association—which is always at bottom association by contiguity—is the beginning of psychical life, and the source of the principles of experience, prior even to the law of identity. This law and that of uniformity both demand comparison, and this consists of two parts: first we feel an experience to be familiar, and then the element with which comparison is to be made can be reproduced. The author inquires at length into the stage of evolution at which animals begin to think in accordance with the various postulates, and tells so many tales of their intelligence as nearly to persuade us of the paradox of Rorarius.

Self-consciousness, we are told, distinguishes men from animals, and is the psychological source of the idea of substance (though the author agrees with Kant that, metaphysically, substance is not applicable to the Ego). Our acts suggest the substitution of causality for mere succession; motions appear not merely to follow volitions, but to follow necessarily *from* them. Controversies as to the nature of cause have an anthropomorphic origin: if I say I move my limbs, substance is the cause, its own motion is the effect; if *I* move other bodies, one substance is the cause of motion in another; if my *motion* moves other bodies, cause and effect are alike events. All three views seem plausible to crude anthropomorphism, and the third is preferred only because it is more convenient in science.

Both substance and cause, says our author, are applied to the material world only by anthropomorphism; nevertheless he insists that they must be applied. Matter is defined by three attributes, extension, motion, and impenetrability. Abstracting from the last two, we get the subject-matter of Geometry. (It is difficult to see how two immovable extensions can fail to be impenetrable, and no explanation is offered.) Abstracting extension too, and leaving only what is common to the psychical and physical, we are left with the thinkable simply, which gives us number. The author proceeds to discuss Arithmetic, Geometry and Mechanics. The account of number agrees in the main with Sigwart. It ignores modern Arithmetic by permitting geometrical arguments on fundamental points, *e.g.*, multiplication and irrationals. The remarks on Geometry are a farrago of logical fallacies, historical blunders, and mathematical errors, culminating in a pretended proof of the axiom of parallels. The discussion of Mechanics is mainly directed against Mach, and insists on the necessity of absolute motion, which the author, like Leibniz, deduces by means of causality. He fails, however, to understand the consequences of absolute motion, since he asserts, contrary to received Dynamics, that two particles alone in the world would have to move in the straight line joining them. Atomism is regarded as *a priori* necessary, and action at a distance as unavoidable, though the latter, it is confessed, cannot be anthropomorphised. Vortex atoms are dismissed with the single remark that they are the maddest imagination since the time of the Vedas (p. 104), and no arguments are to be found against a *plenum*. The law of inertia is deduced from the principle that every change is to have a cause; with Heymans, experience is allowed to decide whether the principle is to apply to change of place or change of velocity. It is not realised that both, if the principle be sound, require causes, and that, if one may be uncaused, so may the other.

The book, though it has some good sections, shows, despite violent partisanship, an almost total lack of real argument on controverted points. It also illustrates the fact that philosophers subsequent to Kant, in writing on mathematics, have thought it unnecessary to become acquainted with the subjects they were discussing, and have therefore left to the painful and often crude efforts of mathematicians every genuine advance in mathematical philosophy.

B. RUSSELL.

Die Moderne Physiologische Psychologie in Deutschland. Eine historisch-kritische Untersuchung mit besonderer Berücksichtigung des Problems der Aufmerksamkeit. Von W. HEINRICH. Zweite teilweise umgearbeitete und vergrösserte Ausgabe. Zürich: E. Speidel, 1899; London: Williams & Norgate. Pp. viii., 249. Price 4s. net.

Zur Prinzipienfrage der Psychologie. Von W. HEINRICH. Zürich: E. Speidel, 1899; London: Williams & Norgate. Pp. vi., 74. Price 2s. net.

Heinrich's position, as developed in his *Prinzipienfrage*, may be summed up as follows. For scientific purposes we must regard the world as a manifold whose parts are qualitatively differentiated. A naïve realism is the only justifiable presupposition. Hence we must exclude from our point of view derived notions such as those of mass, energy and consciousness. All there is to consider (here, as in other places, Heinrich closely follows Avenarius) is the individual, his fellow-men and their utterances, and his complex environment. The strictly scientific method is descriptive, and never goes behind the facts for an explanation. Psychology, accordingly, does not aim at deciphering man's consciousness. Its special task is to investigate the attitude of the individual in relation to his fellow-men and to his environment. With this end in view it takes cognisance only of the interaction between the individual, physiologically considered, and his environment; and that because in the objective world alone can the law of causation be rigidly and usefully applied. Hence those theories which imply an introspective basis, or introduce a subjective factor, should be dismissed as weak, if not as self-contradictory. Between the individual and the environment we must assume the existence of a complete chain of physical sequence, uninterrupted by any psychic links. Many of Heinrich's arguments in favour of an objective psychology and against the interconnexion between the mental and the material are forcible, though not always convincing. Yet it is a pity that he should be almost uniformly speculative. He decides against the possibility of systematic introspection; he assumes a sharp cleavage between mental and material; he accepts the world as it appears to him as final; but he fails to support these crucial assumptions, knowing apparently nothing of the contentions of James and Fouillée respecting the last two propositions.

Heinrich's larger work is a survey of German physiological psychology from the standpoint described in the preceding paragraph. He examines in turn Herbart, Fechner, G. E. Müller, Wundt, Külpe, Münsterberg, Ziehen, Avenarius, and a few other writers. French psychologists are represented by Descartes and Ribot, while England and America are unrepresented. His chief attack is directed against the introduction of subjective factors in experimental psychology. He endeavours to show that sensations cannot be measured, and that figures referring to "conscious" activity, as in association experiments, are untrustworthy and barren. Against Wundt and others he argues powerfully and at some length that the physical series is at no stage determined by desire, or pleasure, or any psychic factor. He holds that the physical sequence is the primary one, whilst the mental sequence is dependent and secondary. He rules out mental activity, and hence his special discussion of the problem of attention, connected as that is by many thinkers with such activity. Lack of positive support for far-reaching statements is our author's fault in this volume as in the one already referred to. His theory of attention, in spite of profuse criticisms of other writers, consists but of a vague suspicion that sensory accommodation is the sole factor in sensory attention. His description of the mental as embodying "our wishes, experiences, resolutions, hopes, desires, volitions, etc., etc."—always carefully omitting, as he does, references to sensations and images—is most unsatisfactory as a definition. His disparagement of introspective methods, without bringing forward proof of their insufficiency, makes us doubt whether he has given them a fair trial. Nor does his tacit agreement with the quantitative school satisfy us that he is on the royal road to the solution of psychological questions. However, Heinrich urges with force an important point, *i.e.*, that psychologists should well consider the inexpediency of dealing with a series which contains both physical and psychic factors, and the advantage of rigidly separating the two classes.

GUSTAV SPILLER.

Wörterbuch der Philosophischen Begriffe und Ausdrücke. By RUDOLPH EISLER. Lieferungen, i-viii. Berlin; Mittler au Sohn, 1899. Pp. 800.

In this Dictionary Dr. Eisler renders good service to philosophical students. The work is now in its seventh part. It is executed on a very restricted plan, and should be estimated only for what it attempts. To criticise the plan first, we find the word Wörterbuch altogether too broad for a work of this character. It is in strictness a collation of sentences more or less of the character of definitions—sometimes very far from such—from ancient and modern writers collected under headings and put in alphabetical order. It attempts no authoritative definition of its own, makes no effort to sum up opinions, gives no discrimination of good authors from bad and often quite omits the best. It has no derivations (as such), no equivalents in other languages, no discrimination among so called synonyms. This is of course a "Dictionary"—but not what one expects in these days of lexicographical specialising.

As to its execution: Dr. Eisler's limitations are very evident. He has gone through many works, marking and copying pregnant sentences on this topic and that; but his reading is mainly, almost entirely, German. Of English authors he cites works which have been translated into German—or which are cited by German authors he has consulted. For example, Bain and Spencer are quoted—the rest not! As to living writers, the result is surprising. For example, under the psychological headings I find James's name twice—no doubt a more diligent search would discover it twice again—and in one of these references, James is put down with Bain, as a *Vertreter* of Associationism! Now it is simply inexcusable for any man in these days to call himself educated in philosophy who cannot read the three great languages of literary Europe; and to publish a work of a historical character on *philosophische Grundbegriffe* under such a limitation is to invite unsparing criticism. Again, the citations are of every degree of value from boiling down to zero. Some are detached sentences, worse than worthless separated from their context. Others are merely descriptive remarks not intended by the writer as definitions at all. All these are printed side by side, and the student finds himself "rich in the riches of confusion". Moreover, certain favourite writers (notably Wundt) are cited everywhere from Alpha to Omega.

Yet the service of the book remains. In the hands of the philosophical expert it serves a double purpose. It brings to his door many good things which he would otherwise have to spend many hours in seeking. And better—it presents, on the whole, under some of the main topics, data for a general view of the progress of a conception in history as embodied in quotations from the leading philosophers. But the student should beware of being misled by its single citations.

In the references a high degree of accuracy has been attained, and the publishers' work is all that could be desired. Furthermore, the list of terms seems fairly exhaustive for philosophy proper—not for experimental psychology however—and some English terms are included, yet without sufficient indication—especially in case of Latin forms, *e.g.* 'emotion'—as to whether or not the same form is used in German.

J. MARK BALDWIN.

Aristoteles. Von. H. SIEBECK (Frommanns Klassiker der Philosophie, No. 8.) Stuttgart: Fr. Frommann, 1899. Pp. 142.

This excellent little account of the greatest of ancient philosophies deserves to be widely known in England, where there is a curious dearth of works upon the principles of Aristotelianism as distinguished from monographs upon special points. Teachers who have to lecture upon the History of Ancient Philosophy will find Herr Siebeck's clear and concise presentation of the main doctrines of Peripateticism exceedingly useful for their own special purposes, and it may also be put with great profit into the hands of their more intelligent pupils; for the dullards its very conciseness will probably make it a little too difficult. It is no disparagement of a work of long-proved merit to say that Siebeck's book will be all the more welcome among us that it is written from another point of view than the well-known "Outlines" of the late Edwin Wallace, and seeks to measure Aristotelianism by comparison more with modern natural science than with later idealistic metaphysics. The brilliant account of Aristotle's metaphysical principles and their physical application seems to us to call for especial praise. This singularly difficult subject has, perhaps, never been more successfully handled in a popular style. On the other hand, we might have wished for a more adequate account of the Aristotelian theory of method than that given at pp. 113-18. And in the chapter on Ethics the author certainly seems to exaggerate the difference between Aristotle and Plato. It is scarcely just to the author of the *Republic* to represent him as regarding this life merely or mainly as a preparation for the next. Possibly again too much is made of Aristotle's own preference for a "contemplative" life. After all, Aristotle cannot be said to present the βίος θεωρητικός as the one ideal for all mankind.

A. E. T.

Einleitung in die Philosophie. Von Prof. Dr. WILHELM JERUSALEM. Wien und Leipzig: Wilhelm Braunmüller. Pp. vi., 189.

An extremely well-written little book. It deals from the author's distinctive stand-point with the whole range of philosophical problems, treating successively of the nature and function of Philosophy, of the method and scope of the various philosophical disciplines, of Epistemology, of Ontology, of Æsthetics, and of Ethics and Sociology. The author belongs to the rapidly increasing group of thinkers who found Philosophy on Psychology. In particular a certain psychological theory of the nature of Judgment dominates his whole work. The essence of all Judgments consists, according to Dr. Jerusalem, in "reference to a centre of force," which is ultimately founded in the immediate experience of voluntary movement. We interpret our sense experience as implying the existence of wills other than our own, and in so doing we become aware of external things as substances and causes. In the treatment of Æsthetics Prof. Jerusalem advocates a play-theory. He regards artistic activity as an exercise of energies which are not called into action in the practical business of life. He finds the basis of morality in the essentially social nature of man and not in any *a priori* law.

The author's own peculiar views are more obtrusively advocated than they ought to be in a work of this sort. But the book has many merits, and in particular it is distinguished by a rare lucidity of style and arrangement.

Rosmini e Spencer. Studio espositivo-critico di Filosofia Morale. Del Prof. GIOVANNI VIDARI. Milano, 1899. Pp. xiii., 297.

This volume is a successful prize essay. In 1894 the commission appointed to bestow what is known in Italy as the 'premio Ravizza' gave as the subject of competition for that and the following year 'an exposition of the moral principles of the traditional or spiritualistic school (Rosmini, etc.), and of the positivist or materialist school (Spencer, etc.)'; and last February the prize was unanimously adjudicated to the work of Prof. Vidari of Sondrio.

It is in some respects a highly creditable performance. To begin with, the method is eminently philosophical. After a general introduction in which the relations of the two representative thinkers to their respective ages are briefly indicated, we are given a detailed exposition of Rosmini's ethics, followed by a critical section, which again falls into two divisions, the first dealing with the system under discussion as a product of personal and historical factors, while in the second it is considered as a pure theory in reference to the demands of logic. An equal space is then devoted to an analysis of Mr. Spencer's system conducted on the same lines; and the whole concludes with a general survey of the present position and prospects of ethical science. The expository portions of the essay also deserve high praise. If the account of Rosmini's system leaves something to be desired in point of clearness, we may safely assume that the fault lies with the inherent confusion of the original rather than with the interpretation of Prof. Vidari. The summary of Mr. Spencer's ethics, though not covering a sufficiently wide area, is, so far as it goes, remarkably luminous and precise. But the author is less happy when he ventures on the difficult task of historical deduction and construction. According to his view Europe—with the exception, as is hinted, of England—was from 1815 to 1845 under the dominion of a spiritualistic and religious movement, most adequately represented by Rosmini. To this succeeded another current of ideas, 'derived perhaps from England,' fed with the discoveries of physical science, opposed to revealed religion, positivist and materialist in its tendencies, represented by Herbert Spencer. Finally, during the last years of the century, we have a reaction against evolutionary monism combined with a more purely scientific way of looking at facts. The time has not come for a definite characterisation of contemporary tendencies; but surely Prof. Vidari takes far too limited a view of European thought from 1830 to 1845. Much the greater part of Hegel's teaching, the whole activity of the Hegelian Left, and the whole of Comte's *Philosophie Positive* fall within that period, while the anti-clerical revolution of 1830 forms its exact central point. The author may claim Hegel as an idealist; but no thinker was ever more rationalistic or more opposed to such transcendental ethics as Rosmini's. Again, in politics that period was dominated by the idea of nationality, for which Rosmini had no sort of liking, but rather the reverse. In truth this philosopher, so revered by his countrymen, had no European position; he only represented a group of amiable Italians who dreamed of reconciling the Papacy with the demands of modern civilisation. There was no doubt something remarkable about a nineteenth century metaphysician who tried to harmonise Roman Catholic theology with reason, and the Roman theocracy with individual liberty and religious toleration; but to place him by Mr. Spencer is grotesque. Rosmini was rather an Italian Coleridge, without Coleridge's literary genius, but with far more power of systematic application. Both received a considerable stimulus from German idealism, but rather as a solvent of eighteenth century sensism than as a source of positive truth. And just as Coleridge was thrown back by his German studies on the old Anglican divines, so Rosmini was thrown back on the early Fathers, whose philosophy, itself derived from the later schools of Greece, he attempted to furbish up for modern requirements. The result was a series of verbal quibbles, which there is the less need to expose inasmuch as their fragile texture has been torn to pieces by Prof. Vidari in his theoretical criticism.

In tracing the antecedents of Spencerianism the author says much that is true, if rather obvious, but on the whole he is greatly hampered by ignorance both of things English and also, to a great extent, of Mr. Spencer's writings. That philosophy which he depicts as the natural outcome of triumphant middle-class ideas ran counter to formidable prejudices. Whatever may be the sentiments of the continental *bourgeoisie*, our middle class from 1840 to 1860 did *not* make pleasure the principle of moral good (p. 195); nor is it true that it paid no heed to the 'moans and murmurs' of the lower classes. The condition of the people, as we can tell by early Victorian literature, attracted no less attention then than now and was discussed with equal ardour. It was also a subject in which Mr. Spencer was particularly interested, having become familiarised when still a youth with the practical working of the English Poor Law, both old and new. If he rejects Socialism it is from no indifference to the lot of the working classes, but because he sincerely believes that their position would be made worse by the substitution of collectivism for competition. And so far from feeling satisfaction with the actual state of society he was led by the passion for reform to work out the whole theory of evolution. For Prof. Vidari is quite mistaken in assuming that this theory arose from the spontaneous development of physical science, or that it was something that Mr. Spencer picked up by the way and fitted *tant bien que mal* to his utilitarian ethics. It was rather a sucker thrown out from the ethical theory which in turn became a support to the parent trunk.

The theoretical criticism of Mr. Spencer's ethics is largely vitiated by an assumption for which the authorities who set the subject of competition for the 'premio Ravizza' are primarily responsible. In obedience to the terms employed by those gentlemen the epithet materialistic, although repeatedly disclaimed by Mr. Spencer, is throughout these pages applied to his teaching. Merely as a question of courtesy people should not be called by names to which they object unless grave reasons for so doing can be given. Nor is the question merely verbal. Misuse of words leads to misstatements about facts. Prof. Vidari represents Mr. Spencer as saying that 'Force is no other than the subjective correlative of Matter' (p. 185)—and this in complete forgetfulness of an earlier passage in his own exposition where the objectivity assigned to Force in *First Principles* is perfectly recognised (p. 164). Another time, and again in direct contradiction to his own exposition, he charges Mr. Spencer with denying any active efficacy to thought, feeling, and will. Finally when Mr. Spencer claims to have established in opposition to the empiricism of the older utilitarians a necessarily causal relation between certain courses of action and the production of pleasure and pain, this is interpreted to mean that morality results from a process of unconscious evolution ultimately dependent on the persistence of force. Prof. Vidari denies, on the authority of Wundt, that force persists, the law of the conservation of energy being inapplicable to mental action (p. 210), and expatiates at length on the importance of consciousness in morality. He has of course a right to think what he likes about force; but his criticisms are irrelevant. What Mr. Spencer says in this connexion about conduct and causation does not refer to the ultimate derivation of human activity from the forces of nature, but to the necessary effect of certain courses of action, consciously carried on, in increasing or diminishing the sum of human pleasures and pains. The whole discussion moves on the ground of conscious life; and there is nothing essential to the method or the conclusions that a believer in free-will, as such, might not accept.

For the rest Prof. Vidari disputes Mr. Spencer's positions at every point. He denies that pleasure is the final good; that the felicific effect of actions can be calculated; that the good are more adapted to the social environment than the bad; that the survival of the fittest is conducive to morality; that acquired moral habits are inherited; that the feeling of obligation is destined to disappear in a perfect society. But as there is nothing original about his objections they cannot be noticed here.

When the essayist attempts to be original he becomes confused. The errors of moral philosophers are due, he thinks, to their not sufficiently distinguishing between the science of morality and morality itself. According to his view instead of telling us what we ought to do they should confine themselves to describing and analysing the facts of moral consciousness as exhibited in all countries and at all times. Above all they should keep clear of contemporary interests and not let themselves be influenced by the spirit of the age. On this principle Pasteur should have left the cure of disease severely alone. Yet, oddly enough, 'science helps to constitute morality and life and to direct them along new paths' (p. 121). But its principal duty is to register the foregone conclusions of a certain school, and to play into the hands of theology. It must recognise the feeling of obligation, that is of a superior force imposing itself on us, as an ultimate fact that it cannot explain. And it must also recognise a necessary relation between the fulfilment of the Ideal, which is an objectivation of that force (whatever that may mean) and the complete satisfaction of life, that is happiness (p. 119). As usual with the anti-hedonists, personal happiness is after all the supreme end. Elsewhere we learn that 'our ignorance of the force whence obligation proceeds is the very thing that makes its incessant action possible' (p. 245). But at any rate we know that it is rather changeable, since it has been 'objectivated' in all the ideals ever set up by human beings (*ib.*). The real object of this ethical agnosticism is to leave a vacuum for faith to fill up (p. 295). 'The foundation of morality must be sought in God,' but apparently one God will answer the purpose as well as another (p. 296). Prof. Vidari fancies that he speaks for science; in reality he only speaks for a particularly feeble and sterile form of reactionary thought.

ALFRED W. BENN.

La psicogenesi dello istinto e della morale secondo C. Darwin. Di PIETRO SCIASCIA. Palermo, 1899. Pp. xii., 178.

Darwin when he traced back the descent of man to a lower animal found himself confronted by the difficulty of accounting for the intellectual and moral faculties which have long been regarded as what chiefly distinguishes him from the brutes. He explained the growth of reason by the use of language, and language as evolved out of animal cries. And he accounted for conscience by the instinct of sociality common to all gregarious animals combined with the sympathy to which that instinct in its higher development leads.

Signor Sciascia, who writes as a disciple of M. Fouillée, combats this position. His arguments are not very methodically stated, nor is it very easy to follow them. His exposition of Darwin's theory is lucid and interesting; but the polemical sections of his essay resemble the contents of a disorderly notebook. Nor does their scientific value make up for their literary deficiencies. Misconceptions and inconsistencies abound, and too often assertions and quotations do duty for facts and reasonings. The leading points seem to be as follows:—

Instincts cannot be acquired by individual experience, nor can they be transmitted by inheritance, because the animal could not begin to live without them, and because they cannot be embodied in the nervous structures. They result apparently from an immaterial principle by virtue of which the living creature, when it comes into contact with the external world, has an intuition of the means for attaining its ends, a process however which passes below the threshold of consciousness (pp. 66, 73). It is not stated whether this remarkable power is shared by plants—whether, for example, *sempervivum arachnoideum* has an intuition of the means for catching insects before spinning its web. We may observe that the intuition called into play by contact with reality relates to things that do not exist, being first created by the animal itself. Darwin may be wrong, but his explanation if correct would be an addition to our knowledge; his critic explains nothing, he merely gives a paraphrastic description of the facts to be accounted for.

As applied to morality, however, instinct stands for something very much less complicated than the elaborate contrivances by which certain animals provide for their own and for their offspring's sustenance, and something also much easier to explain. Our author occasionally speaks as if Darwin and his followers supposed that human beings came into the world with a complete code of morality organised in their nervous systems, and as if this code had been built up by natural selection and acquired habit without the intervention of reason. If so they would have pledged themselves to a gratuitous absurdity. The thing to be explained is how disinterested actions come to be performed. Given a primary root of self-devotion, intelligence may be trusted to elaborate it into the loftiest ethical system ever known. Without that element reason can do no more than machinery without propulsive force. Now Darwin finds this element in sociality and sympathy, qualities shared by us with some of the lower animals. The members of a flock like being together and are distressed by prolonged isolation. Call this tendency an instinct or an impulse, there seems no reason why it should not be correlated with certain nervous structures and transmitted by inheritance to offspring. At any rate those who deny the assumption are bound to account for the general correlation of consciousness with a nervous system and for the established facts of mental heredity—points not discussed by the author. In the next place sociality leads to sympathy, or perhaps it would be safer to say synergy. Gregarious animals co-operate for a common end, and occasionally defend each other against attack, even at the risk of their lives. And here Darwinism comes into relation with utilitarianism. If right actions are those which either directly promote pleasure, or indirectly contribute to it, by maintaining the vital and social conditions of its existence, and contrariwise with pain, then morality, so far from contradicting evolution, is just what we should expect as its result. Signor Sciascia, on the other hand, holds that true morality is not utilitarian, and that Darwin's theory will not account for it.

A good deal of the discussion turns on the implications of sympathy. It may at once be admitted that Darwin was not a psychological expert, and that something has been learned since he wrote. It seems unlikely that when one animal defends another against attack, or when a child in arms defends its nurse (as I have seen one do) the action is caused by a representative image of painful consequences. Creatures living together imitate one another, and to imitate the behaviour of the party attacked would often mean to join in repelling the aggressor. However this may be—and it is a point on which the author does not enter—in the higher stages of consciousness the pains and pleasures of others are sympathetically felt in the full sense of the word, and become motives to action just like the original pains and pleasures of the agent himself. Here, according to utilitarian psychology, is the genesis of disinterested action; and here, according to Darwin, is the connecting link between animal sociability and human morality. Signor Sciascia, on the other hand, urges that such disinterestedness is a veiled egoism, and that to be actuated by a regard for one's own feelings cannot be truly moral. This, however, is to confound the intention with the motive of action. It is asserted by the theory impugned that all wills alike are determined at the moment of resolution by the greatest traction of pleasure combined with the least resistance of pain, and that is the motive of action; whereas its intention may be to secure the future happiness of the agent at the expense of others, which is egoism, or the future happiness of others at the expense of his own, which is altruism. And it is further asserted that in the upward march of evolution, the progress of organic adaptation, the mechanism of individual character becomes so adjusted that the idea of disinterested action tends to be associated with the most pleasurable, and that of its dereliction with the most painful, feelings, so that the race which produces the most Picquarts and the fewest Merciers is bound in the long run to win.

After these explanations it is needless to argue the question, for the author makes a number of scattered admissions which taken together give his case completely away. 'Egoism,' he justly observes, 'only arises when one's own profit is sought to the loss of others' (p. 105). 'He who wished to secure the triumph of his own personality to the loss of that of others would not even secure individual happiness' (p. 132). 'The power of sympathy or of the disinterested impulses enters as an element into the moral sentiment' (p. 139). 'Primitive societies could not have been perpetuated without the idea and the practice of justice' (p. 149). 'In man the representation of man awakens by hereditary disposition a particular pleasure, a tendency to give mutual help, to put others in one's own place' [Qu., oneself in the place of others?] (p. 159). 'Certain special psychical dispositions towards well-doing have been formed by heredity' (*ib.*). 'In the struggle for existence the victory will not be with those who possess marked physiological strength, but with those who join with power of intellect and feeling an energetic will and a well-developed social psychism' (p. 176).

If Signor Sciascia could be brought to see that a physiological foundation is necessary to the existence of these admirable qualities, and if he could be disabused of the error that Darwinian moralists ignore intelligence and morality as factors of evolution, there would be little or nothing to separate his philosophy from theirs.

ALFRED. W. BENN.

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V. Norström, *Till Platos Idélära*, Göteborg ; London, Williams & Norgate, pp. x., 105.

E. Liljeqvist, *Inledning Till Psykologien*, Göteborg ; London, Williams & Norgate, pp. 168.

E. Liljeqvist, *Om Skepticismens Betydelse*, etc., Göteborg ; London, Williams & Norgate, pp. 23.

X.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. viii., No. 3. Frontispiece, 'The New Kant Portrait.' **J. G. Schurman.** 'Kant's *a priori* Elements of Understanding.' [Exposition and criticism of the Transcendental Analytic, on the assumption that the (previously criticised) Æsthetic may be taken for granted. The problem of the pure science of nature. The emergence of categories, according as objects of perception are thought in the various forms of logical combination. The understanding as conferring objectivity on the phenomena of sense; the transcendental deduction. Synthesis in knowledge, and the objective unity of apperception. Time as mediator between category and phenomenon. Examination of the 'analogies of experience'.] **I. O. Winslow.** 'A Defence of Realism.' [Critique of Royce's *Conception of God.* The idealistic argument that we can know nothing 'beyond' consciousness is a paralogism; the distinction should be between the self in thought and the not-self, beyond-self, in thought. The bridge from subjective to absolute idealism is an analogy only. Personality and the reality of fellow-beings are left unexplained. Finally, God is given a merely quantitative definition. We must go back to Berkeley for a true realism.] **H. Haldar.** 'The Conception of the Absolute.' [Royce defines the Absolute as thought and experience, following Hegel. He further identifies will with attention, and attributes this only to the Absolute. But will involves conscious effort, and Royce's position ignores the 'energy' of science. Also, the Absolute must feel perfect pleasure, and be conscious of time distinctions. On the other hand, Royce is better than Howison on the question of individuality. The Absolute is superpersonal.] **E. Adickes.** 'German Philosophy during the Years 1896-1898.' [History of Philosophy; Metaphysics.] Discussion. **E. B. Titchener.** 'Structural and Functional Psychology.' [Reply to Caldwell. Introspection in descriptive psychology; mind as function of the total organism; the mental element as process; psychology and energetics.] Reviews of Books. Summaries of Articles. Notices of New Books. Notes. Vol. viii., No. 4. **J. G. Schurman.** 'Kant's *a priori* Elements of the Understanding.'—ii. [Kant always remained a rationalist; not in the Wolffian sense, but a 'formal, epistemological, phenomenalistic' rationalist. It was to save this rationalism that the whole Analytic was composed. Kant may be said to have 'discovered' the function of the unity of apperception in the generation of the consciousness of objects; he neglected the involuntary origination and connexion of the presentations of sense. The transcendental deduction, which should construct the fact that 'knowledge implies a unity of self-consciousness,' is to-day so much useless scaffolding. Understanding does not beget objectivity, whether in the ordinary meaning of thinghood or in the Kantian of necessary and universal validity.] **J. C. Murray.** 'Rousseau: His Position in the History of Philosophy.' [Suggested by the recent works of Davidson and Texte. Historical sketch of the doctrines of φύσις and ἀρχή. (1) On the state of nature, Rousseau holds irreconcilable views. While he differs from Hobbes and Mandeville, his own theory is yet incompatible with an original virtue. Man's natural state, for him, is prior to the evolution of reason, and absolutely non-social. (2) Society is based on a pure convention, involving a more or less violent transformation of man's original nature. Rousseau follows Hobbes, however, in emphasising the tyranny of social rule. (3) The absolutism claimed for the state is in contradiction with Rousseau's theory of education, which implies anarchism rather than despotism. The contradiction arises from defects in the conception of man's essential nature. Contrast between Rousseau and Kant.] **J. B. Peterson.** 'The Forms of the Syllogism.' [A fourth syllogistic figure is impossible, and the third a piece of laboured trifling. The first and second are equally valid, though not equally important. We thus get rid of the deduction of valid moods, and can banish altogether reduction, mnemonic lines, contraposition,—indeed, practically the whole doctrine of immediate inference.] **E. Adickes.** 'German Philosophy during the Years 1896-1898.' —II. [Psychology and epistemology; æsthetics; ethics.] Reviews of Books. Summaries of Articles. Notices of New Books.

PSYCHOLOGICAL REVIEW. Vol. vi., No. 3. **C. H. Judd.** 'A Study of Geometrical Illusions.' [Overestimation and underestimation of parts of a figure should be replaced by the more general idea that points are shifted in their spatial relations with reference to all the points in a field of vision. Effects within the figure, *i.e.*, are attended by effects without it. (1) The Poggendorff illusion cannot be explained as an angle illusion. The movement hypothesis is adequate. (2) Angle illusions cannot be explained by energy of movement (Wundt), by contrast in direction of movement (Helmholtz), or by perspective. Judgments of length of sides and of distance between them at a certain distance from the vertex are the important factors.] **W. Mills.** 'The Nature of Animal Intelligence and the Methods of Investigating It.' [Critique of Thorndike. Anecdotes are not valueless. Animals observed must be placed under normal conditions. It is doubtful if animals possess self-consciousness; but it is probable that the faculties of animals, so far as they go, are not radically different from those of man, and it is unsafe to say at present that the animal mind does or does not comprise certain definite powers (inference, reasoning, etc.).] **E. A. Kirkpatrick.** 'The Development of Voluntary Movement.' [Do children learn to move, or inherit a movement-mechanism, or are movements partly learned and partly inherited? The latter hypothesis is the most probable, but must be modified and made definite. (1) Chance and imitation must receive a physiological basis. (2) There is an inherited physiological space relation between visual stimulus (object in a certain position) and the muscles for moving towards it. The only element at first prominent in consciousness is the visual sensation. And it is unnecessary, in learning, to have consciousness of all or of most of the elementary part-movements.] **E. Thorndike.** 'The Instinctive Reaction of Young Chicks.' [Reaction to coloured spots; to distance, direction, etc.; instinctive muscular co-ordinations (jumping, swimming, etc.); instinctive emotional reactions (fear of novel objects in motion; criticism of Spalding and Morgan). Instinctive reactions are not necessarily definite; they may be vague, irregular, and partially dissimilar reactions to vague, complex situations.] Discussions. **J. H. Hyslop.** 'Professor Muensterberg on Mysticism.' [The method and attitude of the *Atlantic Monthly* paper are unscientific.] **H. M. Stanley.** 'Mr. Marshall and the Theory of Religion.' [The definition of religion in *Instinct and Reason* as an instinctive check to individualistic action is too narrow for psychology and sociology. Religion has primarily a direct function, as a method of reciprocity with superiors; later an indirect positive function, as emphasising habits of dependence and obedience.] Psychological Literature. New Books. Notes. Psychological Index, No. 5. 'A Bibliography of the Literature of Psychology and Cognate Subjects for 1898.' By **H. C. Warren** and **R. S. Woodworth,** assisted by **N. Vaschide** and **B. Borchardt.** [Issued March, 1899. Two thousand five hundred and fifty eight titles. Omissions appear to be less frequent than in previous years.] Vol. vi., No. 4. **W. L. Bryan** and **N. Harter.** 'Studies on the Telegraphic Language: the Acquisition of a Hierarchy of Habits.' [Need for a psychology of 'occupation'. Tests on students for rate of receiving letters not making words; same, letters making words but not sentences; same, words making sentences. Answers to questions addressed to telegraphers: direction of attention, 'copying behind' in receiving, receiving of disconnected words or figures. Conclusion and discussion: the hierarchy of habits, and the order of their acquisition; plateaux; effective speed and accuracy. "There is no freedom except through automatism." We cannot use "the higher language units until the lower have been so mastered that the attention is not diverted by them"; at all stages, however, there should be "practice with the highest language-units". The plateaux of a curve are thus measures of the difficulty of making lower-order habits sufficiently automatic to allow the attention freely to attack the higher-order units. "Automatism is not genius, but it is the hands and feet of genius."] 'Communications from the Psychological Laboratory of Harvard University.' **L. M. Solomons.** 'Automatic Reactions.' [Reaction to sound under distraction by reading of light literature. Three types of subjects: auditory type, slow in becoming automatic; visual-motor type, quickly automatic; intermediates. First begin to react automatically at about 290 σ; new type of reaction begins at 230 σ. Second react 'impersonally' at 180 σ; between 230 and 180 σ come the 'simultaneous' reactions. Theoretical analysis of times: "when the sensations from an arm-movement are preceded by a discharge of the corresponding motor cells of the cortex, they are felt to be personal".] **G. V. N. Dearborn.** 'Recognition under Objective Reversal.' ["An object is recognised more readily when inverted than in either of the two intermediate positions of quarter-reversal, and more readily than in the erect mirror-position or that position inverted." Explanation by habit.] Shorter Contributions and Discussions. **E. E. Slosson.** 'A Lecture Experiment in Hallucinations.' [Distilled water poured out; odour suggested. But a lecture-room has real odours!] **H. Muensterberg.** 'Professor Hyslop on Mysticism.' **C. B. Bliss.** 'Psychology and Life.' [Reply to Muensterberg.] **E. Thorndike.** 'A Reply to "The Nature of Animal Intelligence and the Methods of Investigating it".' [*I.e.*, to Wesley Mills.] **J. M. Gillette.** 'Notes on After-images.' [Enhancement of after-image by temperature, etc.] Psychological Literature. New Books. Notes.

Monograph Supplements. Vol. ii., No. 5. **G. V. N. Dearborn.** 'The Emotion of Joy.' [Introduction: relation of emotion to pleasantness-unpleasantness; acceptance of kinæsthetic theory; importance of parallelistic work. Definition: emotion is "a temporal portion of excited sentient experience wherein the subjectivity and the psychophysical attention to the object, real or ideal, are heightened with or without a tone of pleasantness or of unpleasantness, and wherein the feeling and the bodily position or movement are or tend to be characteristic and correlative". Joy-reactions to hypothetical gifts. Involuntary reactions of hand and head to opposed algedonic tones: in pleasantness, extension: flexion = 68: 32; in unpleasantness, = 33·3 : 66·6; in indifference, = 51 : 49. Other tendencies, however, cut across the flexion-extension reactions. Voluntary arm-movement in response to affective stimuli; agreeableness makes extension proportionally greater and flexion proportionally less, and *vice versa.* Involuntary leg-reactions to similar stimuli; like results. Effects of joy on vascular system and respiration. Habitual inhibitions disguise the kinæsthetic 'extra-motions'. "Joy is an extension or expansion of the personality in both its aspects, mental and bodily."] No. 6. **E. G. Dexter.** 'Conduct and the Weather: an Inductive Study of the Mental Effects of Definite Meteorological Conditions.' [Study of questionnaire returns from teachers, superintendents, wardens; and of data of school registration, attendance, deportment, 'assault and battery' cases, penitentiary discipline, arrests for insanity, deaths, suicides, murders, clerical errors in national bank records, maximal strength tests, discrimination tests; in comparison with barometric pressure, temperature, humidity, total movement of wind, character of day, precipitation. Impossible to summarise: author's conclusions are as follows: "Varying meteorological conditions affect directly the metabolism of life. The 'reserve energy' capable of being utilised for intellectual processes and activities other than those of the vital organs is influenced to a marked degree" by these conditions, as is the "quality of the emotional state". "Reserve energy and emotional state are both factors in the determination of conduct."]

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. x., Nos. 3-4 (double number) **S. E. Sharp.** 'Individual Psychology: a Study in Psychological Method.' [The two problems of individual psychology; the variation of mental processes as between individuals, and their interrelation within a single mind. Analysis of the work of Binet, Kraepelin, Cattell, Gilbert, etc.; the French psychologists advise tests of the higher processes, the German look for best results from a study of the elementary psychoses. Experimental work upon the second problem by the method of tests (Binet). Advanced and junior students tested for memory, mental imagery, imagination, attention, observation and discrimination, tastes and tendencies. The "positive results are wholly incommensurate with the labour required for the devising of tests and evaluation of results". But this is due simply to the fact that the necessary preliminary work has not yet been done. Binet's method, made more accurate, and worked out in detail until norms have been set up, promises to be exceedingly fruitful.] **A. Carman.** 'Pain and Strength Measurements of 1507 School Children in Saginaw, Michigan.' [Rough tables, showing very imperfect knowledge of statistical method. Results: sensitivity to pain decreases with increase of age in both sexes; girls are weaker and more sensitive than boys; left temple is more sensitive than right; clever children are stronger and more sensitive than dull; etc.] **L. W. Kline.** 'Suggestions toward a Laboratory Course in Comparative Psychology.' [Practical suggestions for work with amœba, paramecium, vorticella, hydra, earth worm, slug, fish, chick, white rat (psychic development, experimental study of intelligence), cat. The writer knows the literature, and describes his experiments clearly, but his English is sometimes slovenly.] **H. H. Goddard.** 'The Effects of Mind on Body as evidenced by Faith Cures.' [Extracts from an elaborate study, based partly on the questionnaire, of Christian Science, Divine Healing, Mental Science, Relic Cures, Hypnotic Therapeutics, Cures by Patent Medicines, etc. The author writes sympathetically, but also discriminatingly; his promised book should be valuable. General result: all mental healing is by way of suggestion. "The idea of health tends to produce health in proportion to the strength of the idea, or inversely as the opposition to be met." Theory of the physiology of suggestion, in terms of the brain-paths vacated in the degeneration of voluntary to reflex movement.] **H. S. Jennings.** 'The Psychology of a Protozoan.' [Résumé, from the side of psychology, of the author's recent studies of paramecium. "The reactions are comparable in all essentials to those of an isolated muscle. . . . We are not compelled to assume consciousness or intelligence in any form to explain these activities." A good paper.] **G. S. Hall.** 'A Study of Anger.' [Exhaustive analysis of anger, based on questionnaire returns. Causes: spontaneous anger, personal antipathies, dress and ornament, habits, invasion of the self, injustice, etc. Subjective variations: heredity, teasing, absence of temper. Physical manifestations: secretions, vasomotor disturbances, etc. Anger at inanimate objects; vents. Reaction after anger. Control. Treatment.—Critique of James-Lange theory; "the feelings are indefinitely older than the will, as it is older than the intellect".] Psychological Literature. Books received.

THE AMERICAN JOURNAL OF SOCIOLOGY. Edited by ALBION W. SMALL. Vol. IV. Chicago: The University of Chicago Press, 1899. The editor of *The American Journal of Sociology* is to be congratulated on the completion of the fourth volume of this important publication. The present volume contains a variety of articles on sociological questions and sociological method in addition to many valuable reviews of books. The editor, **Mr. Small,** contributes three papers on the "Methodology of the Social Problem"; **Mr. Mark Baldwin** has an article on the social and the extra-social; **Prof. Simmel,** three papers on the persistence of social groups; **Prof. Ratzel,** a similar number of papers on political areas. Mr. C. H. Henderson's reviews of sociological books are well and carefully done. A useful feature of the journal is the bibliography. A very full and carefully classified list of new works of a sociological character appears in each number, and Mr. C. H. Hastings deserves much credit for the excellent manner in which this portion of the magazine is conducted.

ARCHIVES OF NEUROLOGY AND PSYCHOPATHOLOGY. Vol. i., Nos. 1 and 2. **I. van Gieson** and **B. Sidis.** 'Neuron Energy and its Psychomotor Manifestations.' [Attempts, in diagrammatic form, to correlate the general manifestations of psychomotor life with more or less definite physiological processes depending on the expenditure or restitution of neuron energy.] **I. van Gieson.** 'The Correlation of Sciences in the Investigation of Nervous and Mental Diseases.' [(1) History of psychiatry: periods of revenge; of indifference; of humanitarian and empirical treatment; of scientific study, rational treatment, and preventive medicine. Psychiatric methods: the relation of the asylum and of the psychopathic hospital to science (2) The place of psychology, histology, neurology, cellular biology, bacteriology, pathological anatomy and physiology, anthropology, in the investigation of mental diseases.—A paper of 200 pp., popularly written; without index or table of contents. Normal psychology is handled somewhat contemptuously: it is abnormal psychology that "has furnished the key to the understanding and even the treatment of functional nervous and mental diseases." Histologically, the "neuron theory, Sidis' psychophysiological theory of association and dissociation, the theory of the expansion and contraction of the neurons, the theory of neuron energy fluctuation, and Flechsig's plan of the association centres and sensory spheres of the brain" are of prime psychiatrical importance.]

REVUE PHILOSOPHIQUE. No. 10. October, 1899. **F. Le Dantec.** 'Le Mécanisme de l'Imitation.' [A bird learns to sing and a child to speak by imitating certain of the sounds they hear. They are enabled to do so by means of a special mechanism consisting of an "*instrument auditif*" and an "*instrument phonateur*," which are interconnected by registering and conducting tissues.] **E. Borel.** 'A propos de l'Infini nouveau.' **R. de la Grasserie.** 'Des mouvements alternants des idées révélés par les mots (I.).' [Ideas exhibit an upward, downward and lateral movement. In the first, material ideas become dematerialised; concrete, abstract; vulgar, noble. In the second, these processes are reversed. In the third, the sense of the word remains on the same level and changes by deviation only.] Analyses et comptes rendus. Revue des Périodiques Étrangers. No. 11. November. **G. Milhaud.** 'Mathématique et Philosophie.' [A mathematical education disposes a thinker to attach himself to the idea rather than to concrete facts or images; he pursues the intelligible and disregards the sensible.] **G. Richard.** 'La Responsabilité et les Équivalents de la Peine.' [A theory of punishment.] **R. de la Grasserie.** 'Des Mouvements alternants des Idées, révélés par les mots' (*fin*). Revue Critique. 'Metaphysic of Experience' (Shadworth Hodgson). **A. Penjon.** [Gives an analysis of the analysis of experience on which the 'Metaphysic of Experience' is based, describing it as "une des plus profondes, sans contredit, que l'on ait jamais tentées".] Analyses et comptes rendus. Revue des Périodiques Étrangers. No. 12. December. **F. Paulhan.** 'L'Analyse et les Analystes.' [A comparative study of different types of 'l'esprit analytique'.] **J. Payot.** 'L'Éducation du Caractère.' [The only possible basis for a classification of characters is the *nature* of psychical energy. Writer gives a four-fold classification: (1) Intense and prolonged; (2) intense, but not prolonged; (3) feeble and prolonged; (4) feeble and not prolonged. Cases (2), (3) and (4) can be remedied, if at all, by hygienic measures only. The *form* of activity can be modified to almost any extent—if no contrary influences are in operation.] Revue générale. **G. Richard.** Philosophie du Droit. Analyses et comptes rendus. Revue des Périodiques Etrangers.

REVUE NÉO-SCOLASTIQUE. No. 21. Hume, while reducing metaphysical principles to concomitances or permanent successions of facts, admitted the *necessary* character of mathematical demonstrations. Even though circles and triangles had never existed in nature, still, in the opinion of Hume, the demonstrations of Euclid would possess the character of certitude and evidence. A similar admission was made by Kant. But J. S. Mill, who was the first to construct a complete system of empirical philosophy, maintained that even mathematical demonstrations have no more than a purely experimental value. In opposition to Mill's contention, **D. Mercier** ('Le Positivisme et les vérités nécessaires') argues that the axioms of geometry and the principles of arithmetic are propositions of an ideal order, and that their truth is quite independent of the existence of contingent things. **V. Ermoni** ('Le Phénomène de l'association') holds that the phenomenon of association confirms the traditional view of substance as a continuous, permanent and undivided subject. Association involves the reproduction and recognition of anterior mental states. But this reproduction and recognition are inexplicable unless a principle be admitted which persists identically throughout the various psychical states and changes. St. Thomas defines philosophy as "the science which considers first and universal causes". **M. De Wulf** ('La Synthèse Scolastique') accepts this definition. A philosophy answering to such a definition as this evidently must possess a very extensive content. At the outset of his commentaries on the Nikomachean Ethics, St. Thomas unfolds this content. The order which the intellect seeks to understand is realised, says St. Thomas (1) in nature (ordo quem ratio non facit sed solum considerat). The truths of the *natural* order are ranked under metaphysics, mathematics and physics; (2) in the acts of will, or the *moral* order, the object of moral philosophy (ordo quem ratio considerando facit in actibus voluntatis); (3) in the acts of mind, or the *logical* order, the object of logic (ordo quem ratio considerando facit in proprio actu); (4) in exterior actions, or the order of the *mechanical and fine arts* (ordo quem ratio considerando facit in rebus constitutis per rationem humanam). M. De Wulf regards the classification given by St. Thomas as the true classification of the philosophical sciences and, in the present article, enters upon its exposition and defence.

L'ANNÉE PSYCHOLOGIQUE. By Alfred Binet. 5me Année. Paris: Schleicher Frères, 1899. Pp. 902. **J. Joteyko.** ‘Revue générale sur la fatigue musculaire.’ [Short sketch of subject with bibliography.] **B. Bourdon.** ‘Les objets paraissent-ils se repetisser en s'élevant au-dessus de l'horizon?’ [Fails to confirm Stroobant's experimental observations on the apparent diminution of objects seen above the horizon.] **Ed. Claparède.** ‘Perception stéréognostique et stéréoagnosie.’ [Clinical study on the perception of form and of things by sense of touch; distinguishes between “*stéréoagnosie*,” loss of perception of form, and “*asymbolie tactile*,” loss of perception of objects.] **A. Binet.** ‘La suggestibilité au point de vue de la psychologie individuelle.’ [Valuable review of the subject; classification and account of various conditions which come under the general head of suggestibility; account of numerous experimental methods of testing these different conditions.] **Victor Henri.** ‘Quelques applications du calcul des probabilités à la psychologie.’ [Simple and useful demonstration of the application of a formula to determine whether the differences between two series of observations are due to chance or special conditions.] **J. Clavière.** ‘L'audition colorée.’ [Short review with bibliography.] **Victor Henri.** ‘Influence du travail intellectuel sur les échanges nutritifs.’ [General paper on method.] **J. Larguier des Bancels.** ‘Essai de comparaison sur les différentes méthodes proposées pour la mesure de la fatigue intellectuelle.’ [After intellectual work, sensibility of skin diminished, muscular power increased, temperature lowered, slight influence on pulse rate.] **H. Zwaardemaker.** ‘Les sensations olfactives, leurs combinaisons et leurs compensations. [Short sketch of physiology of smell with new observations on mixture and compensation of odours.] **Dr. Marage.** ‘Les phonographes et l'étude des voyelles.’ [Chiefly on method. Advantages and disadvantages of various phonographs.] ‘Historique des recherches sur les rapports de l'intelligence avec le grandeur et la forme de la tête.’ [Historical account, limited to work on living subject; general consensus of evidence that a group of more intelligent people have larger heads than a less intelligent group, and that the increased development is mainly in the anterior half of the head.] **E. Blum.** ‘La Pédologie.’ [Sketch of history and aims of “child study”.] **A. Binet.** ‘Note relative à l'influence du travail intellectuel sur la consommation du pain dans les écoles.’ [Reply to criticism.] **J. Larguier des Bancels.** ‘Le volume du bras et la force musculaire mesurée au dynamomètre.’ [Definite correlation between muscular power and size of forearm and wrist.] **G. Demeny.** ‘Étude sur les appareil chronophotographiques.’ [Account of apparatus.] Revue d'apparies. **Victor Henri.** ‘Revue générale sur le sens musculaire. [Valuable critical account with ample bibliography.] Analyses. Bibliography.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xxi., Heft 5. **G. Heymans.** 'Untersuchungen über psychische Hemmung.' [Experiments within the three modalities of sight, taste and hearing: attention held upon the inhibited sensation. General result: the inhibitory effects, as measured by the raising of the stimulus limina are (1) proportional to the intensities of the inhibiting stimuli, (2) where the quality of these is different, to the resistances which they themselves offer to inhibition by other stimuli, and (3) inversely proportional to their stimulus limina. It follows that the stimulus limen of ordinary laboratory work is an inhibition phenomenon.] **L. W. Stern.** 'Die Wahrnehmung von Tonveränderungen, II. Tonunterschiede und Tonänderungen: Paralleluntersuchung nach der Methode des Urtheilsganges.' [Description of apparatus (blown bottle and variator) and method (course of certainty and accuracy of judgments). Continuous tonal change is easier remarked than corresponding tone difference (discrete change); the former is grasped in a single act of perception. The interval of 6 seconds proves to be an optimal time for the perception of tonal change and difference. The reason is to be looked for in the culmination at this point of the second observation-stage ('psychical present') of the individual experiment.] **S. Exner.** 'Notiz über die Nachbilder vorgetäuschter Bewegungen.' [Illusory visual movements leave after-images.] Literaturbericht. Bd. xxi., Heft 6. **A. Pick.** 'Psychiatrische Beiträge zur Psychologie des Rhythmus und Reimes.' [Groos divides hear-plays into productive and receptive. He finds analogues of the former in psychopathology; the present paper gives instances of receptive rhymes and rhythms in pathological cases. Heart-beat, the movements of walking, etc., play a part beside entotic noises. In general, attentive expectation (Meumann) is of great importance; noticeable also is the involuntariness of the rhythms (*cf.* memory-experiments with nonsense syllables).] **Reddingius.** 'Die Fixation.' [There is no true 'fixation,' for there can be no sense-stimulus to it; what happens is an alternation of loss and regaining of adjustment, the movements being so slight as to be imperceptible. Discussion of the hypothesis in five cases. (1) Absence of the innervation of convergence and divergence: pendular movement of the fovea to the image-point and back again. (2) Binocular vision with orthophoria: homogeneous innervation of fixation (equality of convergence and divergence stimuli); equal movements of the foveæ to either side of the image-point. (3) Normal monocular vision: the motor equivalent of the dispersion circles is an impulse put together of equally intensive stimuli from accommodation, pupil convergence and divergence. (4) Binocular vision: esophoria, enhancement of the impulse to divergence; exophoria, diminution of it. (5) Binocular vision with hyperphoria: necessary to assume a paired vertical innervation—vertical convergence and divergence.] **R. Simon.** 'Ueber die Wahrnehmung von Helligkeitsunterschieden.' [Influence of practice; of the magnitude of the illuminated field of vision; of the visual angle; of monocular and binocular experimentation; of the method of investigation. Weber's law holds only approximately; or at least, if valid, is valid only over a certain limited range of intensities.] Literaturbericht. **L. W. Stern.** 'Erklärung.' [Reply to Meyer.] Bd. xxii., Heft 1. **L. W. Stern.** 'Die Wahrnehmung von Tonveränderungen, III. Die Wahrnehmung von Tonveränderungen sehr verschiedener Geschwindigkeit.' [The limen of change, contrary to the accepted opinion, falls with decrease of rapidity of change. An explanation is sought in the law of optimal times. Reply to Stratton's criticisms.] **L. W. Stern.** 'Ein Beitrag zur differentiellen Psychologie des Urtheilens.' [A contribution to the 'individual' psychology of the two subjects of the foregoing investigation. The one belongs to the 'objective' type, and passes judgment at the bidding of external stimulus; the other to the 'subjective,' and passes judgments of expectation or preconception. That the writer should consider himself the discoverer of this branch of psychology only illustrates the blindness of the specialist. The points made here have been emphasised of late in work issuing from the Leipzig and Göttingen, as well as from certain American laboratories.] **M. Sachs** and **R. Wlassak.** 'Die optische Localisation der Medianebene.' [Apparatus: a useful adjustable head-rest. Experiments: localisation with symmetrical position of the head: binocular and monocular determinations, with fixed object (glowing line in dark room); determinations with moving object; with lateral direction of the line of regard: experiments with sideward turn of the head. Results: the visual organ discriminates 'right' or 'left' far more easily than it decides 'neither right nor left'; and, in general, the localisation of the median plane is dependent solely upon the conditions of the formation of retinal images, and not upon muscular or motor sensations—*i.e.*, Hering's view is confirmed.] Besprechungen. [K. Lange on Groos' *Die Spiele des Menschen;* Pelman on de Fleury's *Introduction à la médecine de l'esprit.*] Literaturbericht.

PHILOSOPHISCHE STUDIEN. Bd. xv., Heft 2. **W. Wundt.** 'Bemerkungen zur Theorie der Gefühle.' [Detailed reply to Titchener's critique in the *Zeits.* Positive grounds for a multidimensional feeling system: introspection of clang and colour feelings; interpretation (not the authors'!) of Mentz' pulse and Lehmann's plethysmographic curves; Vogt's dissociation experiments. The following polemic seems to miss Titchener's points entirely.] **E. Buch.** 'Ueber die "Verschmelzung" von Epfindungen, besonders bei Klangeindrücken.'—II. [Examination of the experimental series of Stumpf (Tonpsychologie, ii.) and Külpe (Outlines). New experiments: Appunn reed-box and specially constructed organ-pipe apparatus. Judgment by 'total impression' and with analysis. Discussion of subjective and objective sources of error. While a certain uniformity is discoverable in the experimental results (1) there is nothing in the series with analysis that cannot be explained by the known conditions and laws of fusion and analysis at large, taken in conjunction with the peculiar physical relations evinced by tones; we need not assume any special 'fusion degree,' over and above the relation of consonance, beats among partials, practice in hearing and analysing, etc. The only possible exceptions are the octave and the twelfth, which may possess a somewhat higher 'fusion degree' than the other intervals. (2) The same explanations hold for the experiments without analysis, so far as reed-tones are concerned. For the pipe-experiments a subsidiary hypothesis, as to the course of development of the musical ear, is required. The distance of the fundamentals may also have had influence on judgment. There is again not the least need for a concept of 'fusion degree' or 'harmony,' save possibly for octave and twelfth.—Brief review of the recent work of Faist, Meinong, Witasek, Meyer, Stumpf. Outstanding problems. Tables.] **J. Cohn.** 'Gefühlston und Sättigung der Farben.' [Repetition of Major's experiments, with Bradley papers. (1) Major's method of absolute separate judgments is valid. The writer's method of paired comparisons is, however, superior. (2) Most people prefer more saturated to less saturated colours. There is, however, an opposed type, of less frequent occurrence; Major seems to have hit upon this type. It is, perhaps, explicable in terms of association, though it may indicate a difference in the original reactions of the sense-feelings.]

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE. Neue Folge. Bd. v. Heft 4. **H. Grünbaum.** 'Zur Kritik der Modernen Causalanschauungen.' [Criticises the attempts of Avenarius, Petzoldt and Mach to substitute other conceptions for that of causality; it is maintained that all such attempts presuppose as the basis of their procedure the conception with which they pretend to dispense. The author finally sums up his own view of the principle of causality in thirty-seven short paragraphs. His general position is that causality is a concept due to the union of two factors—on the one hand the empirical fact of the regular sequence of certain phenomena; on the other, the *a priori* principle which demands a rational explanation for all changes.] **L. Goldschmidt.** 'Kant's "*Widerlegung des Idealismus*".' [Maintains the entire consistency of Kant's treatment in the two editions of the *Critique.* In both the aim is to justify belief in a *given* external world in space and time as against the subjective idealism which would make the phenomenal reality of material things a mere illusion.] **Max Dessoir.** 'Beitrage zur Aesthetic.' [A long and important article. The author sums up his results as follows: There is a complex and ramifying interconnexion of science and art. The historical sciences of life and mind contain a large admixture of art. On the other hand, much that is properly scientific enters into poetic construction, especially of the romantic order. It is found that logical motives and processes play a prominent part in the origin of the plastic arts. Even at the present day thought of a scientific character plays a more unrestricted part in works of art than is desirable from the purely artistic point of view. A further article is promised dealing with the conflict of scientific tendencies in the mind of the creative artist.] **B. Bosanquet.** 'Systematic Philosophy in the United Kingdom in 1898.' [Notices Hodgson's *Metaphysic of Experience*, Ward's *Naturalism and Agnosticism*, Wallace's *Lectures and Essays*, Watson's *Outline of Philosophy*, and Latta's *Leibniz.*]

PHILOSOPHISCHES JAHRBUCH. Bd. xii., Heft 1. **Dr. E. Rolf.** 'Moderne Anklagen gegen den Charakter . . . Sokrates, etc.' [In this, the first of two articles, the writer examines the accusations made in recent times, especially by Döllinger, Wolf, Zeller, etc., against Socrates, Plato, and Aristotle, and that of paiderastia in particular. He shows that, notwithstanding expressions used in certain parts of their works, there is absolutely no reason to suspect them; the whole of their doctrine is diametrically opposed to such vice.] **V. Cathrein.** 'Der Begriff des sittlich Guten.' [This paper is the first part of a discussion with Prof. Mausbach, who, at the Catholic Congress in Freiburg (1897) had blamed Pr. Cathrein's definition of moral goodness as insufficient, and presented another, for which he claimed the authority of St. Thomas. Pr. Cathrein points out various shortcomings of the definition, and shows that it does not agree with St. Thomas' idea of moral goodness.] **G. Buschbell.** 'Der Traditionalismus Bonald's.' [A historico-philosophical paper, dealing with De Bonald's theory of ideas and the origin of language, which he assumed to have been given by revelation and to have *caused* our ideas, when given, thus making the whole of our knowledge supernatural. In conclusion, the writer takes the trouble to show that such a theory is untenable.] **N. v. Seeland.** 'Zur Frage von dem Wesen des Raumes (Conclusion).' [We cannot conceive space as in less than three dimensions; one or two dimensional space is an abstraction absurdly transferred to things; and there can be no more than three, for the three correspond to infinite space. In a word, space means the three dimensions into which we analyse it taken together, and nothing more.] **C. Gutberlet.** 'Neueres über den Tastsinn.' [A friendly review and short summary of the work of Victor Henri on the sense of space as given by touch ; the author agrees with most of his conclusions.]

RIVISTA ITALIANA DI FILOSOFIA. November-December, 1898. **C. Cantoni.** 'Ai Lettori della Rivista.' [An announcement that this periodical will in future appear as the *Rivista Filosofica*, under the editorship of the writer.] **C. Cantoni.** 'Sulla Morale.' [A discussion of the relation of ethics to religion, æsthetics and science. The moral Ideal must be human and at the same time have reference both to the individual and to society. There are four conditions necessary for the progress of the State: (*a*) a certain amount of material goods ; (*b*) that material goods should be distributed to each citizen according to the principles of justice ; (*c*) that the citizens, subject to (*a*) and (*b*), should be free to develop their faculties and activities ; (*d*) that there should be moral education, tempered by a salutary stoicism, inculcating patriotism.] **G. Zuccante.** 'Intorno all' Utilitarisimo dello Stuart Mill.' [This article is an exposition, appreciation and criticism of Mill. He advanced upon Bentham in being more psychological and thereby "transforming the formula of Utilitarianism," so that altruism ceased to be a mere fiction or comedy. But while ideas of personal dignity and the nobility of right conduct are introduced, it is shown that the distinction, in kind, as between pleasures, involves, as criterion, a reference to the judgment of a personality external to that of the moral agent. The remainder of the article is a criticism of the "miracle" required for association of Ideas to bridge this gap. In fact, Association is Mill's *deus ex machina*.] **L. Ambrosi.** 'Che cos' è la Materia?' [This question, according to the writer, is unanswered, and, indeed, unanswerable by materialists, because they appeal to Experience, and atoms, etc., cannot be presented to sense. Therefore, "matter" is a metaphysical conception. Again, if the materialist attempts a definition, he becomes involved in a vicious circle. *e.g.*, matter is the object of sense—sense is that by which matter is perceived.] **A. Bartolomei.** 'I Principi Fondamentali dell' Etica di Roberto Ardigò e le Dottrine della Filosofia Scientifica.' [The moral character takes its rise from the compulsion of the law of the State. At first this manifests itself an "heteronomous energy," which prevents the agent from criminal acts, then right conduct appears as spontaneous, next it appears as abstracted from its relation to society, and finally, in the highest stage, external sanctions become superfluous. The writer next proceeds to compare and connect this gradation with evolution (to be continued).] **G. Marchesini.** 'Il Valore del Giudizio Negativo.' [In opposition to N. R. D'Alfonso, it is contended that negative judgments have a distinct value in preparing for the enunciation of positive ones. Investigating the questions whether positive are logically prior to negative judgments, it is shown that affirmation and negation are two aspects of a unique mental act. Thus the logical question is merged in a psychological or metaphysical one. Even intuition involves an implicit or "spontaneous" judgment, which has a double value both positive and negative. Further, judgment has a basis of feeling which may be either positive or negative, instances of the latter being found in cases of aversion or repugnance, *e.g.*, to certain foods, etc.] **G. M. Ferrari.** 'L'Uomo Primitivo.' [A discussion of the notions of early man with regard to the mind, family life and nature.] **V. Alemanni.** 'Le Dottrine Estetiche di Pietro Ceretti.' [Ceretti, being a poet and *littérateur*, was attracted to the study of Æsthetics. He was a follower of Hegel, and his work is important in the history of Italian Culture.] Bollettino.

RIVISTA FILOSOFICA. January-February. **C. Cantoni.** 'Ai Lettori della Rivista Filosofica. [This prefatory note explains that the magazine is a continuation of the *Rivista Italiana di Filosofia.* Under the new direction the *Review* is to be historical and critical and at the same time to insist upon the various relationships of Philosophy to Religion, Politics, Education, Literature and Art.] **A. C. Chiappelli.** 'La Funzione presente della Filosofia Critica. [Part i. A historical survey of the different tendencies of the followers of Kant.] **F. Tocco.** 'I Principii Metaphisici della Scienza e della Natura di E. Kant.' [The writer begins by investigating Kant's position as to whether there is, strictly speaking, a Science of Nature, and he lays special stress upon Kant's insistency that a science as such must be mathematical. He then investigates Kant's views as to Space, Motion and Rest, Attraction and Repulsion, the laws of Motion and the sense in which Necessity can be predicated of Physical facts or laws.] **B. Labanca.** 'Gesù di Nazareth in recenti Pubblicazione Francesi.' [A summary of the conclusions of A. Réville's *Jésus de Nazareth* and E. Stapfer's *Jésus-Christ pendant son Ministère.*] **A. Piazzi.** 'Libertà o Uniformità nelle Scuole Medie?' Rassegna Bibliografica. Carlo Cantoni: *B. Croce.* Silvio Spaventa. G. Vidari: *B. Baglioni.* La Personalità umana. Rassegna delle Riviste Filosofiche e Pedagogiche Straniere. Sguardo alle Riviste Italiane Sommari delle Riviste Straniere. Libri Ricevuti. March-April. **C. Cantoni.** 'L'Insegnamento filosofico e l'Educazione delle Classi Dirigenti.' [A plea for further philosophical instruction in the Italian Universities. After a discussion of the "indirect" teaching of Philosophy, under the head of Classical Education, the writer urges the need of the addition of modern Philosophy to the university curriculum, both as theoretical and practical training.] **G. Cesca.** 'Criticismo ed Umanismo.' [Despite Kant's attack upon "Dogmatism," the Critical Philosophy was succeeded by Idealistic and Materialistic systems, and, hence, there has been a new Criticism, which is limited to investigations of cognition. But such Néo-Criticism requires to be supplemented by "Humanism".] **B. Labanca.** 'Gesù di Nazareth in recenti Pubblicazione Francesi.' [A continuation of an article in the preceding number. This —the concluding portion of it—summarises Prudhon's *Jésus et les Origines du Christianisme;* Cherfils' *Introduction à Wronski Philosophe et Reformateur;* R. Meyer's *Le Christ des Evangiles* and other recent French works.] **A. Piazzi.** 'Libertà o Uniformità nelle Scuole Medie?' Rassegna Bibliografica, etc., etc.

XI.—NOTES.

PROF. MÜNSTERBERG'S *PSYCHOLOGY AND LIFE.*

I write to file a protest against the matter and the manner of Mr. Schiller's notice of Prof. Münsterberg's *Psychology and Life* in the last issue of Mind. And I venture to do this because I am one of those who are directly responsible for Prof. Münsterberg's appearing in English. Prof. Münsterberg became an active contributor and co-operating editor of *The Psychological Review* with much hesitation, feeling naturally that his residence in America had been short and that his English might be criticised; he finally yielded with much courtesy and with great inconvenience to himself and consented to print his researches in English, at the same time requesting us who passed his MSS. editorially to aid him in matters of idiomatic expression. The chapters of the *Psychology and Life* were first published in the *Atlantic Monthly* and passed through the hands of an editor whose standards—as the record of his magazine attest—are as high as those of any journal published in the English language. That Prof. Münsterberg should now be criticised in terms so discourteous—not to use stronger language—seems, even apart from these circumstances, not only a flagrant breach of hospitality on the part of the foremost English philosophical journal but also a case of the airing of a private prejudice. If Mr. Schiller's notice should weigh seriously enough with Prof. Münsterberg to lead him to reconsider his decision to interpret his German works himself for English readers (as in this case) it would certainly be a loss to the English-reading public.

As to the rest—the tone of superiority and assumption of the reviewer—toward an author of Prof. Münsterberg's repute—must, one cannot but believe, be accidental rather than deliberate, *esprit* rather than *animus;* and on that supposition one may excuse its lack of close criticism and real discussion. But certainly a work of serious—not to say strenuous—philosophy, which has been prepared with great pains by the author from his larger German manuscript, deserves a more adequate and responsible review in Mind.

J. Mark Baldwin.

Prof. Baldwin's 'protest' against my review of Prof. Münsterbergs' book (in the last number of this journal) seems to suggest that my criticism may have been in some way, or to some extent, inspired by personal *animus.* I should like, therefore, to state emphatically that this was by no means the case, and that my criticism found the sources of its inspiration entirely within the four corners of Prof. Münsterberg's book. That he and his friends should feel so aggrieved about it I regret, as also that I should have written in ignorance of the 'extenuating circumstances' that Prof. Baldwin enumerates. But as their existence in no wise appeared on the surface of Prof. Münsterberg's work, which instead seemed to show features that warranted my strictures, I may perhaps be allowed to claim a similar indulgence on my own behalf. At all events I am confident that my review did not contain anything but what I could then substantiate and could still explain, if it should seem advisable. Even the criticism of Prof. Münsterberg's English was not intended as a piece of gratuitous impertinence, but as a serious explanation of what seemed to me the obscurity of his thought. I realised, perhaps more keenly than Prof. Münsterberg, the immense difficulty of expounding so abstruse a philosophy in a popular and lucid and yet adequate way; I felt that he had chosen a mode of expressing his ideas in which he could not do himself justice, that it evinced a certain lack of consideration for his readers not to remove every obstacle from their path that would yield to literary treatment, and that with a little more care and less haste wonders might have been effected. After reading Prof. Baldwin's statement, I can see that every allowance should have been made for articles which have been published and republished 'by special request,' but I fail to follow his argument that a grave loss would be inflicted upon English literature if Prof. Münsterberg should take a single review so seriously to heart as to cease to write in English. This is an *ignoratio elenchi;* for the question, surely, is *not* whether his work should or should not be rendered accessible to English readers, but whether adequate precautions should have been taken to ensure its appearance in proper literary form. I have no doubt that in future Prof. Münsterberg will not, if he so chooses, have the slightest difficulty in producing his next work in excellent English, and if this should be the happy outcome of the present controversy, English readers of philosophy, so far from suffering loss, will have much reason to thank MIND for so fearlessly publishing a criticism which was at least honest.

F. C. SCHILLER.

Where it is possible for competent critics to differ so widely about the value of a book, it seems advisable to have appreciation of it written from different points of view. I am, therefore, pleased to announce that Mr. R. B. Haldane has consented to write an article commenting on Prof. Münsterberg's work for the April number of MIND.

ED.—G. F. S.

I should be glad to have the opinions of logicians as to whether the implication, *If it is probable that* A *is certain, it is certain that* A *is probable,* is always true. My own final opinion (after a preliminary stumble over a treacherous paradox) is that it is not. The implication, of course, always holds good when the word *true* is put for *certain,* for then the antecedent and consequent are equivalent by definition; but, from the probability unsubjective point of view, the words *true* and *certain* are not synonymous.

HUGH MACCOLL.

The *Ethical World*, the weekly record and advocate of democratical movements edited by Dr. Stanton Coit and Mr. J. A. Hobson (17 Johnson's Court, E.C.), shows much increased spirit and an impressive list of new writers with the new year. This week's number (Jan. 6) contains a vigorous article on "The Ethics of Journalism," by H. W. Massingham, an article which gains interest from the recent trouble in the *Daily Chronicle* Office; an article by Mr. Keir Hardie on the "Outlook for Labour"; a declaration of faith in "Ethics and Democracy," by Dr. Stanton Coit; and the first half of a short story of peace and war, entitled "Glorious Recollections!" by the Baroness von Sultner, the well-known authoress of "Lay Down Your Arms!"

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—HEGEL'S TREATMENT OF THE CATEGORIES OF THE IDEA.

By J. Ellis McTaggart.

The Idea occupies, in Hegel's Logic, the third division of the Doctrine of the Notion, and concludes the dialectic process. It is divided into stages entitled Life, Cognition and the Absolute Idea. The first two of these are again subdivided. I shall, however, endeavour to show that the subdivisions which Hegel makes in the category of Life are unnecessary, and, indeed, unjustifiable.

The Idea is, of course, the Synthesis of the Subjective and Objective Notions. But this Synthesis is not new to us, since it has already taken shape in Teleology, the last category of the Objective Notion. That this should be the case is in conformity with the general notion of the dialectic process, since the Thesis of each triad is only a restatement, in a more "immediate" form, of the Synthesis of the triad preceding. The conception which we reached in the category of Teleology was that reality was a unity differentiated into a plurality (or a plurality combined into a unity) in such a way that the whole meaning and significance of the unity lies in its being differentiated into that plurality, and that the whole meaning and significance of the parts of the plurality lies in their being combined into that unity.

LIFE.

The new category—that of Life—has exactly this meaning over again. Indeed it would be difficult to find a transition in the dialectic in which the identity between the Synthesis and the new Thesis is more evident. In dealing with this category we must, of course, bear in mind, as in the case of other categories named from concrete phenomena, the relation between those phenomena and the category. The logical category of Life does not apply only to what are commonly called living beings, but is equally true of all reality. Nor does it involve any attempt to deduce by pure thought all the empirical characteristics of biological life. The choice of the name is due to the fact that this is the category of pure thought which is most usually and naturally employed in dealing with the phenomena of life.

This is manifestly the case. The most remarkable peculiarity of a living being is that, while it is really a unity, it is only a unity on condition of being differentiated, and that, in so far as we regard it as a living being, the only meaning of the parts is that they are united, while the only meaning of the whole is that it is differentiated. In the case of Life Hegel makes it more explicit, than he does when dealing with other categories with concrete names, that he *intends* to keep strictly to pure thought, and avoid all empirical intermixture. For he expressly cautions us against supposing the Life of the dialectic to be identical with the life of concrete experience, whether the latter be taken by itself, or as a manifestation of Spirit (*Werke*, vol. v., pp. 245-246). But we shall, I think, see later on, that his intentions were not realised, and that his treatment of the category included some empirical details which were unjustifiable and confusing.

We have now to consider the transition from the category of Life to that of Cognition, postponing for the present our attempt to demonstrate that Hegel's subdivisions of Life are useless. We may briefly anticipate the argument by saying that the unity required by the category of Life will prove fatal to the plurality which is no less essential to it, unless that plurality is of a peculiar nature, and that it is this peculiarity which takes us into the category of Cognition.

The unity which connects the different individuals is not, we must first observe, anything outside them, for it has no reality distinct from them. The unity has, therefore, to be somehow *in* the individuals which it unites. Now in what sense can the unity be *in* the individuals?

It is clear, in the first place, that it is not in each of them taken separately. Such an expression is obviously contradictory; since, if the unity was in each of them taken separately, it could not connect one of them with another, and, therefore, would not be a unity at all.

The common-sense solution of the question would seem to be that it is not in each of them when taken separately, but that it is in all of them when taken together. But, if we attempt to escape in this way, we fall into a fatal difficulty. That things can be taken together implies that they can be taken separately. For, if there were no means of separating them, they would not be an aggregate at all, but a mere undifferentiated unity. Now, if the unity is only in the individuals taken as an aggregate, it is not in the individuals taken separately. And, by the definition of the category from which we started, the individuals have no existence at all, except in so far as they embody the unity. Therefore the individuals, taken separately, do not exist at all; and, therefore, they do not exist as an aggregate.

In the case of less perfect unities, there would be no difficulty in saying that they resided in the aggregate of the individuals, and not in the individuals taken separately. A regiment, for example, is not a reality apart from the soldiers, neither is it anything in each individual soldier, but it is a unity which is found in them all when taken together. But here the differentiations are not entirely dependent on the unity. Each man would exist, and would be distinguishable from the others, if the regiment had never been formed. In the category of Life, however, no differentiations can exist independent of the unity. And therefore the unity must be found in them, not only in so far as they are not taken as differentiated, but also in respect of their differentiation. The unity cannot, indeed, as we saw above, be in each individual as a *merely* separated individual. But it must, in some less crude way, be found in *each* of the united individuals, and not merely in the sum of them. For those separate characteristics which differentiate the individuals can have no existence at all unless the unity is manifested in them.

It might be suggested that we could overcome this difficulty by the idea of mutual determination. If each individual is in relation with all the rest, then its character is determined by these relations, that is by the unity of which the individuals are parts. Thus, it may be said, the unity will be manifested in the separate nature of each individual, since that nature will be what it is by reason of the unity of all the individuals.

But this is only going back to the category of Mechanism, and the same difficulties which compelled us to regard that category as inadequate will recur here. Are we to regard the individuals as possessing any element of individuality which is not identical with their unity in the system? To answer this question in the affirmative is impossible. Such an inner reality, different from the external relations of the individual, though affected by them, would take us back to the categories of Essence, which the dialectic has already been compelled to transcend. And, in particular, it would be quite incompatible with our present category. For that demands, not only that the individuals shall not be independent of their unity, but they shall have no meaning at all but their unity. And therefore there cannot be any distinct element of individuality.[1]

On the other hand, if we answer our question in the negative, our difficulties will be as severe as before. The individuals are now not to possess any elements of individuality which are not identical with their unity in the system. But this, while it is no doubt the true view, is incompatible with the conception that the unity is simply the unity of the mutual determination of the individuals. As we saw when Absolute Mechanism transformed itself into Chemism, "the whole nature of each Object lies in the relations between it and other Objects. But each of these relations does not belong exclusively, *ex hypothesi*, to the one Object but shares it with the others. The nature of wax consists, for example, partly in the fact that it is melted by fire. But this melting is just as much part of the nature of the fire. The fact is shared between the wax and the fire, and cannot be said to belong to one of them more than the other. It belongs to both of them jointly. . . . The only subject of which the relation can be predicated will be the system which these two Objects form. The qualities will belong to the system, and it will be the true" individual. "But again, two Objects cannot form a closed system, since all Objects in the universe are in mutual connexion. Our system of two Objects will have relations with others, and will be merged with them, in the same way that the original Objects were merged in it—since the relations, which alone give individuality, are found to be common property, and so merge their parts, instead of keeping them distinct.

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[1] To avoid misconceptions, I will so far anticipate points which must be treated later as to remark that this does not mean that the individuality is subordinated to the unity, but that both moments are completely united in the concrete conception of reality, from which they are both abstractions.

The system in which all the Objects, and all their relations, are contained, becomes the reality—the only true Object, of which all the relations contained in the system are adjectives. The individual Objects disappear."[1]

This explanation also, therefore, must be rejected. For it destroys the individuals in favour of the unity, while our category asserts that the individuality and the unity are equally essential. And such a victory would be fatal to the unity also, since it converts it into a mere undifferentiated blank, and therefore into a nonentity.

The impossibility of taking the connexion required by the category of Life as one of mutual determination of individuals comes, it will be seen, from the high degree to which the notion of unity has now been developed. Any individuality not identical with the unity is incompatible with it. And in mutual determination the individuality is not identical with the unity, since it does not express the whole of that unity, but merely a part of it. For the whole unity is only expressed by the mutual determinations of all the individuals, and these, of course, are not all to be found within each single individual.

We are forced back to the conclusion that it is necessary that in some way or another the whole of the unity shall be in each individual, and that in no other way can the individuals have the requisite reality. Yet, as we saw above, to suppose that the unity exists in the individuals *as isolated*, is to destroy the unity. The unity must be complete in each individual. Yet it must also be the bond which unites them. How is this to be? How is it possible that the whole can be in each of its parts, and yet be the whole of which they are parts?

The solution can only be found by the introduction of a new and higher idea. The conception which, according to Hegel, will overcome the difficulties of the category of Life, is that of a unity which is not only *in* the individuals, but also *for* the individuals. (I am here using "in" and "for" rather in their customary English meanings, than as the equivalents of Hegel's technical terms, "*an*" and "*für*".) What is meant by a unity being for the individuals which are its parts? There is only one example of such a category known to us in experience, and that is a system of conscious individuals.

Accordingly Hegel calls his next category, to which the transition from Life takes us, Cognition (*Erkennen*). This does not seem a very fortunate name. For the category, as we shall see, is subdivided into Cognition Proper and Volition, and Cognition is scarcely a word of sufficient generality to cover Volition as a subspecies. If the category was to be named from its concrete example at all, perhaps Consciousness might have been more suitable.

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[1] MIND, 1899, p. 47.

If we take all reality, for the sake of convenience, as limited to three individuals, A, B and C, and suppose them to be conscious, then the whole will be reproduced in each of them. A will, as conscious, be aware of himself, of B, and of C, and of the unity which joins them in a system. And thus the unity is within each individual.

At the same time, the unity is not in the individuals as isolated. For the whole point of saying that the unity is for A, is that it exists both out of him and in him. To recur to our example, the essence of consciousness is that the contents of consciousness purport to be a representation of something else than itself. (In cases of error, indeed, the contents of consciousness have no external counterpart. But then, as we shall see later on, it is only in so far as consciousness is not erroneous that it is an example of this category.)

Thus the unity is at once the whole of which are parts the individuals, and also completely present in each individual. Of course it is not in the individuals in the same manner as the individuals are in it. But this is not to be expected. The dialectic cannot prove that contradictions are not contradictory; and, if it did, it would destroy all thought. Its work is to remove contradictions, and this it accomplishes, when it meets the demand that the unity shall be in the individuals and the individuals in the unity, by showing that both are true, though in different ways.

The unity is now, as it is required by the category to be, the whole nature of each individual. In so far as we regard an individual as merely cognitive, and in so far as his cognition is perfect (and both these conditions would be realised when we were judging him under the category of Cognition), his whole nature would consist in the conscious reproduction of the system of which he is a part. This does not involve the adoption of the view that the mind is a *tabula rasa*, and that it only receives passively impressions from outside. However the cognition may be produced, and however active the part which the mind itself may take in its production, the fact remains that the cognition, when produced and in so far as perfect, is nothing but a representation of reality outside the cognitive mind.

We must, of course, remember with Cognition, as with Mechanism, Chemism and Life, that the dialectic does not profess to deduce all the empirical characteristics of the concrete state whose name is given to the category, but merely to deduce that pure idea which is most characteristic of that particular state. But in the case of Cognition there is a special feature to be noticed. We can recall and imagine instances of the categories of Mechanism and Life outside the spheres of Mechanics and Biology, and this helps us to realise the difference between the concrete state and the category which Hegel names after it. But of the category of Cognition there is no example known to us, and, as far as I can see, no example imaginable by us, except the concrete state of Cognition. We cannot, I think, conceive any way in which a unity should be for each of the individuals which compose it except by the individuals being conscious. This renders it more likely, than with the other categories of Mechanism, Chemism and Life, that we shall suppose that we have demonstrated more of the characteristics of Cognition by pure thought than in fact we have demonstrated. And great caution will be necessary, therefore, if we attempt to apply the conclusions gained in this part of the dialectic to theological or cosmological problems.

The pure idea of Cognition, to which the process of the dialectic has now conducted us, is free from any empirical taint either in its nature or its demonstration. It is true that it is suggested to us by the fact that there is part of our experience—namely our own possession of consciousness—in which the category comes prominently forward. It is possible that the human mind might never have thought of such a category at all, if it had not had such an example of it so clearly offered to it. But this does not affect the validity of the transition as an act of pure thought. The manner in which the solution of a problem has been suggested is immaterial if, when it has been suggested, it can be demonstrated.

Is the transition from Life to Cognition validly demonstrated? It will have been noticed, no doubt, that, although these two categories form the Thesis and Antithesis of a triad, the passage from one to the other has about it a great deal of the nature of a transition to a Synthesis. Certain difficulties and contradictions arise in the category of Life, which forbid us to consider it as ultimately valid, and the claim of the category of Cognition to validity lies in the fact that it can transcend and remove these contradictions.

But this gradual subordination of the triadic form to a more direct movement is a characteristic to be found throughout the Logic, and one which by no means impairs its validity.[1]

The transition must therefore be judged as a transition to a Synthesis. Now the evidence for such a transition is always to some degree negative only. We have reached a category to which the dialectic inevitably leads us, and which we cannot therefore give up, but which presents a contradiction, and which we cannot therefore accept as it stands. The contradiction must be removed. Now the necessity of the proposed Synthesis lies in the fact that it can do this, and that no other idea can, so that our choice lies between accepting the Synthesis in question, and asserting a contradiction. So far, therefore, the proof of the validity of the Synthesis is in a sense incomplete. For it is never possible to prove that *no* other idea could be proposed which could remove the contradiction. All that can be done is to consider any particular idea which may be put forward for that purpose.

So, in this case, our justification in asserting the claim of Cognition to be a category of the Logic lies in our belief that no other solution can be found for the difficulties of the category of Life. But, until some other solution *has* been found, or at least suggested, it would be futile to doubt the validity of the transition because of such a bare possibility. It is abstractly possible that there is some simple logical fallacy in the fifth proposition of Euclid, which has escaped the attention of every person who has ever read it, but will be found out some day. But possibilities of this sort are meaningless.[2]

We must remember, too, that any idea which involves any of the previous categories of the Logic, except in a transcended form, can be pronounced beforehand inadequate to solve the problems offered by the category of Life, since all such have themselves been transcended by that category. And this confines the field in which an alternative solution could appear to very narrow limits.

The unity, then, is *for* each of the individuals. Such is the conclusion which we have so far reached. But is it also true that the individuals are *for* the unity? At first sight this would seem the most probable view, when we consider how strictly reciprocal the dependence is which exists between the unity and the individuals. I believe, however, that this view is mistaken, and that, while the unity is for the individuals, the individuals are not for the unity. In more concrete language, we cannot *imagine* the individuals except as conscious (because consciousness is the only example of the existence of A for B that we know or can imagine). On the other hand, the Logic does not *compel* us to imagine the unity as conscious. I shall endeavour to show farther on that the Logic, *taken by itself*, cannot *forbid* us to think of the unity as conscious.

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[1] I have endeavoured to prove this in my *Studies in the Hegelian Dialectic*, chap. iv.

[2] Cp. Mr. Bradley's *Logic*, book 1, chap. vii.

In the first place, there is no necessity of thought which compels us to regard the individuals as existing for the unity. We were driven to regard the unity as existing for the individuals, because we found it to be necessary that the unity should be in each individual. Now, in the ordinary sense of inclusion, it was clearly impossible for the unity to be in each of the individuals which are parts of it, and the only alternative was that it should be in each of them, in the sense of being for each of them.

It is as necessary, no doubt, to regard the individuals as being in the unity, as to regard the unity as being in the individuals. But then there is no difficulty in regarding the individuals as being in the unity in the ordinary sense of inclusion. So far from this being difficult it is part of the definition of a unity of individuals that it includes them. And therefore we have no right to say that the individuals are for the unity. They are in it—that is proved. But the further step—that they can only be in it by being for it—is wanting.

And I think we may go farther than this, and say that it is impossible that the individuals should be for the unity in the sense in which we are using the phrase in this category. For the whole significance of one being for the other was that there was some difference between them. If there was no difference, the one would *be* the other, and the whole conception (as we have got it in this category) of one being *for* the other would collapse. All the meaning we gave to the expression that A was for B was that the content of the one was also the content of the other. If A and B are different, this means something. But if A and B are identical, then it would only mean that a thing's content was its content—which is not a new category, but a useless tautology.

Let us apply this. The unity and the individuals are identical—the unity has no nature except to be the individuals, and the individuals have no nature except to be the unity. This we learned in the category of Teleology. But the unity is something different from *each* of the individuals; and, therefore, if the content of the unity is found in each of the individuals, there is a meaning in saying that it is for each of the individuals. On the other hand, the unity is not different from all the individuals together. (It is, of course, not equivalent to a mere sum or aggregate of the individuals, because it is their real unity. But then they exist as a real unity, and not as a mere sum or aggregate, so that the unity is identical with the individuals as they really are.) If therefore the content of the unity is identical with that of the individuals, this merely means that its content is identical with itself — not that it is identical with the content of anything else. And so the conception of the individuals being for the unity becomes unmeaning.

Since, then, the individuals cannot be for the unity, the dialectic gives us no reason to suppose that the unity is either a conscious being, or possesses any quality analogous to consciousness. But the dialectic does not by this give us any reason to *deny* consciousness to the unity. To suppose that it did would be to confound unjustifiably the category of pure thought, which Hegel calls Cognition, with the concrete fact after which it is named. To avoid such confusion altogether is very difficult. We have seen that Hegel himself did not always succeed in doing so, either in the details of the Subjective Notion, or in Chemism, and we shall see that the same criticism is applicable to the details of his treatment of Life. And this constitutes the chief objection to his practice of naming categories after the concrete subject-matter which best illustrates them. Such a plan is no doubt very convenient for an author whose penetration had discovered many more stages in thought than there were abstract names for in existing terminology. And it was also stimulating to the learner, assisting him to call up a vivid picture of the category, and suggesting its practical application and importance.

But these advantages are more than counterbalanced by the perplexities of such a nomenclature. One of these concerns the Logic itself, and we have seen examples of it in the Subjective Notion and Chemism. Any concrete state contains many abstract ideas as its moments, and if we call one of the abstract ideas by the name of the concrete state, we shall run considerable risk of mixing it up with the others, and of supposing that we have deduced by pure thought far more than we have really done.

And there is another objection, arising from a question which is logically previous to this. Is the abstract idea, which is named after the concrete state, really an essential element of that state at all? This is a question which cannot be settled by the dialectic process, which only deals with such abstract ideas as can be reached by pure thought, and cannot discuss the question whether a particular pure thought can be found by analysis in a particular empirical fact. By giving such a name to the category, the dialectic assumes that the answer to the question is in the affirmative, but does not prove it. Should it be mistaken in this assumption, the only injury done to the dialectic itself will be that the category has an inappropriate name, which may be misleading. But if, in the applications of the dialectic, we assume that such a category is always true of the part of experience after which it is named, we may be led hopelessly wrong.

In the case before us it is clear, as I have endeavoured to show above, that, *according to Hegel's category of Cognition*, nothing can cognise unless it has something outside itself to be cognised, and that consequently it is impossible that the unity, which has nothing outside itself, should cognise anything. But it by no means follows from this that we cannot attribute cognition or consciousness to that unity. For such a step would imply that Hegel's category of Cognition was the essential characteristic of what is ordinarily called thought, and, whether this is true or false, it is certainly not proved. All the thought indeed of which we are immediately conscious is of this sort, for we know no thought but our own directly, and we are finite beings, but supposing that Lotze was right in asserting that an all-embracing unity could be conscious of itself, then we should have to admit that it was not an essential characteristic of thought to be for the thinker in the way in which the unity is for the individual in Hegel's category. Of course this would not involve any inaccuracy in the dialectic. The dialectic asserts that the individuals are not for the unity in a specified sense. There is nothing incompatible with this in the assertion that the unity is nevertheless conscious. (I may remark in passing that the attempt to regard the unity as in any sense conscious or personal seems to me to be absolutely unjustifiable. But the arguments on this question belong to the Philosophy of Spirit, and not to the Logic.)

The unity then is for the individuals, but the individuals are not for the unity. The correctness of this conclusion may be challenged on the ground of its atomism. If each of the many individuals has this quality which is denied to the single unity, this, it may be said, reduces the unity to a comparative unreality. All the reality is transferred to the separate individuals, who are each centres of cognition, and the unity falls back into the position of a mere aggregate, or, at the most, of a mechanically determined whole.

If this were the case, we should certainly have gone wrong. We learnt in the category of Life (or indeed, before that, in Teleology) that the unity must be as real as the individuals. And, so far from dropping this in reaching Cognition, the reason that we passed on to Cognition was that in no other way could the full reality of the unity be made compatible with the full reality of the individuals.

If, therefore, the denial that the individuals existed for the unity, subordinated the unity to the individuals, and involved an atomistic view, the position would have to be changed somehow. But I believe that it does nothing of the sort, and that, on the contrary, it is the objection to it which implies an atomistic theory, and is therefore invalid.

A system of individuals of which each is conscious of the other (to go back to a concrete example of the category) is of course differentiated. Each of the conscious beings is an individual, and stands out, by that, separate from the others. But they are just as much united as they are separated. For A can only be conscious of B in so far as they are united, and it is only, in such a system, by being conscious of B that A is an individual, or, indeed, exists at all. Common sense, however, clings by preference to the categories of Essence, and is consequently atomistic. To common sense, therefore, such a system is more thoroughly differentiated than it is united. But the dialectic has proved this to be a mistake. It has shown that in such a system the unity is as real as the differentiation, and it is only to an objector who ignores this that a system bound together by the mutual knowledge of its parts can be reproached with being atomistic.

To think that the unity of the system would be intensified by the individuals being for that unity is a mistake. It is true that each individual is also, in one sense of the word, a unity, and that the unity of the system is for each individual. But the sense in which an individual, that gets all differentiation from without, is a unity, is entirely different from the unity of the system. This has nothing outside to which it can be related, and it gets all its differentiation from within —from the individuals composing it. Such a difference in the nature of the two unities prevents us from arguing that they ought to unify their differentiations in the same way.

Indeed, if the system unified its internal differentiations in the same way that the individual unifies its external differentiations—by having them *for* itself, it seems difficult to deny that it would be an individual too. And if it were an individual, it would stand side by side with the other individuals, and could not be their unity—which is just what we set out by declaring that it was. And this supports our previous conclusion—that the two relations, though equally real, are not similar, and that, while the individuals are in the unity, the unity is for each individual.

In passing from Life to Cognition we are making a step in the Logic which is of exceptional importance to the Philosophy of Spirit. If we are able to arrive at any definite conclusions as to our own ultimate importance in the universe, and our own relations to the unity of the Absolute, they must be based on the results at which we have now arrived, since here, for the first time, we have a category put forward as the adequate expression of reality—the only example of which, that we either know or can imagine, is a unity of conscious beings.

We may sum up the argument as follows, putting it into concrete terms, and ignoring, for the sake of simplicity of expression, the possibility of the category of Cognition having other examples than consciousness—examples at present unknown and unimagined by us. The Absolute must be differentiated into persons, because no other differentiations have vitality to stand against a perfect unity, and because a unity which was undifferentiated would not exist.

Any philosophical system which rejected this view would have to adopt one of three alternatives. It might regard reality as ultimately consisting, partly of spirit and partly of matter. It might take a materialistic position, and regard matter as the only reality. Or, holding that spirit was the only reality, it might deny that spirit was necessarily and entirely differentiated into persons. Of each of these positions it might, I believe, be shown that it could be forced into one of two untenable extremes. It might not be in earnest with the differentiation of the unity. In that case it could be driven into an Oriental pantheism, referring everything to an undifferentiated unity, which could neither account for experience nor have any meaning in itself. Or else—and this is the more probable case at the present time—it would have to preserve the differentiation by asserting the existence, in each member of the plurality, of some element which was fundamentally isolated from the rest of experience, and only externally connected with it. In this case it would have fallen back on the categories of Essence, which the dialectic has already shown to be untenable.

Lotze, also, holds the view that the differentiations of the Absolute cannot be conceived except as conscious beings. His reason, indeed, for this conclusion is that only conscious beings could give the necessary combination of unity with change,[1] which would not appeal to Hegel. But he also points out[2] that we can attach no meaning to the existence of anything as apart from the existence of God unless we conceive that thing as a conscious being. Here, it seems to me, we have the idea that consciousness is the only differentiation which is able to resist the force of the unity of the Absolute. Lotze, however, destroys the Hegelian character of his position (and, incidentally, contradicts the fundamental doctrines of his own *Metaphysic*) by treating the individuality of the conscious beings as something which tends to separate them from God, instead of as the expression of their unity with him.

In this way, I believe, the transition from the category of Life to that of Cognition must be regarded, if we are to consider it as valid. Is this the way in which Hegel himself considered it? It seems that the fundamental idea in his treatment of the transition was the one I have been expounding—that the unity in Life is so strong that it will crush out the individuals, and destroy itself, unless each of the individuals finds the unity within itself. Unfortunately, in spite of his own warning to the contrary, he dragged into his treatment of the category of Life several considerations which unquestionably belonged to the life of biological science, but which had nothing to do with his category of pure thought. And this very greatly mutilates the course of his argument.

His fundamental error here seems to me to be in taking the category to imply a plurality of living beings. We saw, when dealing with the Objective Notion, that, by the category of Teleology, all reality must be combined in a single teleological system. And as the category of Life is merely the immediate version of Teleology, it is equally clear that, by that category, all reality must be combined in a single unity. But in biology we have to deal with a multitude of living beings, each of which is an organic unity, but which together do not form an organic unity, but only an assembly which reciprocally and mechanically determine one another. Now it is this idea which Hegel illegitimately introduces into the category of Life. According to his statement that category regards reality as a plurality of details combined into a smaller plurality of organic unities, which unities again, as combined form a *Gattung*, or species.

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[1] *Metaphysic*, section 96.

[2] *Microcosmus*, book 9, chap. iii. (trans. vol. ii., p. 644).

This admission of a plurality of living unities wrecks the whole transition. The line that Hegel takes is that the individual is inadequate to the species, that the species breaks through it, therefore, and destroys it, incarnating itself in a fresh individual whose inadequacy again destroys it, and that the contradiction produced by the infinite process thus begun must be remedied by Cognition.

But why is the individual inadequate to the species, and why must it break down under the attempt to manifest it? We have seen that an organic unity *is* so close and strong that it does break down and destroy its parts unless they gain that extra strength which can only be given them by the category of Cognition. But a species is not an organic unity. It is a collection of individuals, each of which is an organic unity of its parts, but, for itself, it is merely a collection of objects in reciprocal determination. There is no reason to assert that such a unity as this has any tendency to crush the individuality of its members. For such a unity does not demand that there shall be nothing in the individuals which is not a manifestation of the unity. On the contrary, each individual has many peculiarities which have nothing to do with the idea of the species, and it has therefore a separate element which is quite independent of the idea of the species, and could not be crushed by it. Indeed it is difficult to see what right the idea of a species could have to be found any higher in the dialectic than the Subjective Notion.

Again, Hegel, at any rate in the *Smaller Logic*, explains death as due to the inadequacy of the individual to manifest the species. Now, even if such an inadequacy had been proved, death could not be its manifestation. For nothing can die till it has lived, and we should thus be forced to the conclusion that the individual was for a time adequate to manifest the species, but that, after a time it ceased to be so. This would be useless for the purposes of the Logic. We cannot proceed from the idea of Life to that of Cognition unless we can find the former to be contradictory. And if it is contradictory, it can never be true of anything, and so never cease to be true. It will always have the limited truth which an imperfect category has. It will never be completely true. And thus its contradiction can never take the form of its cessation in time.

Hegel's treatment of Life reminds us of his treatment of Chemism. In Chemism also he endeavoured to demonstrate the inadequacy of the category by showing that it could not permanently hold of anything, instead of showing, as the dialectic requires, that it could never hold of anything. In both cases he was, it seems probable, misled by the name that he had taken for the category into introducing an empirical element which should have had no place in the Logic. And it is to be remarked that in each case he did not help, but hinder, his argument by doing so. It is asserted by some of his critics that he would never have been able to make any of the transitions of the dialectic without the illegitimate introduction of empirical elements. It would be more correct to make exactly the opposite statement. When he does, as in these two categories, mix up the Logic with empirical elements, he fails to demonstrate the transitions, while in each case a valid transition could have been made, if he had only kept, as he proposed to keep, to pure thought.

It will be unnecessary to consider the subdivisions into which Hegel has divided the category of Life—namely, the Living Individual, the Life Process, and the Species. For the whole meaning of the divisions, and of Hegel's transitions from one to the other, depends on the assumption that there are a plurality of organic unities, and, therefore, if I have been correct in my view on this matter, is invalid. We can proceed at once to the consideration in detail of

COGNITION.

The Individual and the Unity may now be said to harmonise with one another. It may be noticed that this is the first time in the course of the dialectic that we have reached a real harmony, *i.e.*, a similarity between the natures of the different things. Something which could be mistaken for a harmony appeared in Reciprocity—it is this that Hegel calls the transition from Necessity to Freedom. It appeared again in Absolute Mechanism, and once more in Teleology. But it was not a real harmony between the part and the whole which we found in any of these. It was a denial of any nature of its own to the part, the reduction of the part to a mere Mode, as Spinoza would have said, of the whole. In such a case there can be no want of harmony, any more than there can be any constraint in slavery which is carried so far that the slave has not a desire or aspiration apart from his master's will. But the perfection of slavery is not true freedom. And true harmony between part and whole can only arise, when as in the category of Cognition, the part has a distinct and individual nature of its own, and finds that nature in accord with the nature of the whole.

We may remark, in passing, that, for this reason, this category is the first on which any distinctly optimistic view of the universe could be founded. Previous categories could give at best but a Stoical or Spinozistic resignation.

Since there is to be a harmony between the Individuals and the Unity, the question naturally arises, which side is active and which side passive? The question, as will be seen later, is not really exhaustive, and the answer to it will be unable to express the full reality. But it is the natural way to look at the matter to begin with. If we find two things necessarily agreeing with one another, the natural inference is that one is dependent on the other, or else both on a third. Now there is no third here, besides the individuals and the unity, and we seem bound therefore to conclude that the harmony is produced either by the unity reproducing the nature of the individuals, or by the individuals reproducing the nature of the unity.

Of these two alternatives we can, to begin with, only accept the latter. If the unity were to reproduce the nature of the individuals, we should have nothing to guarantee that the nature of each individual was not different. And as the nature of the unity is one and indivisible, it would find it impossible to reproduce these varying natures. On the other hand, there is no such difficulty about the supposition that the many individuals each reproduce the nature of the one unity. This gives us

COGNITION PROPER.

(In the *Greater Logic* Hegel calls this category *Die Idee des Wahren.* In the *Smaller Logic* he calls it simply *Das Erkennen,* which Prof. Wallace translates Cognition Proper to distinguish it from the more general category of which it is a subdivision.) If we try to find a distinction between knowledge and volition, we shall find that the object of each is to produce a harmony, and that they differ only in the fact that in the one the object, and in the other the subject, is the determining side of the harmony. This can be tested by looking at a case where the harmony is imperfect, or has broken down. In such a case, should it occur in knowledge, we condemn the knowledge as being incorrect; and we endeavour to amend it by altering our ideas till they accord with the objects outside them. But with volition it is just the reverse. Here we condemn the outside reality which does not accord with our desires, and we endeavour to restore harmony by altering the objects so that they may be as we desire them.

Thus in knowledge the aim of the knowing subject is to reproduce in itself the state of the world at large. Of course this does not imply that the mind is purely passive in the process, and has nothing to do but receive effects from outside. The question is not about the way the results are produced, but about the test of them when they are produced. However active the mind may be in producing knowledge, the fact that it is knowledge which is produced implies that there is a reality.

This being the case, it is natural that the first stage of Cognition should be held to find its only adequate example in knowledge, and should be called Cognition *par excellence.* We must, of course, remember here, as with the wider category, that we have not deduced, and have no right to assume all the concrete characteristics of knowledge, but only the abstract category of pure thought which knowledge exhibits.

Another point to be remembered is that only perfect knowledge could manifest this category. The whole nature of the unity has to be exhibited in the individual, and the whole nature of the individual has to consist in exhibiting this unity. Accordingly, if we look at an actual knowing individual—such as each of us is—we find that his nature differs from the pattern set by the category in two points. It is not large enough, and too large. On the one hand, none of us knows everything, and therefore none of us can know anything quite perfectly. And, on the other hand, none of us are merely knowing beings. Knowledge is but one side of our nature.

I shall venture to omit Hegel's division of Cognition Proper into analytic and synthetic knowledge. In the first place these divisions only apply to knowledge while it is yet imperfect. In perfect knowledge the distinction, as Hegel draws it, would cease to exist. And as the category which we are considering is only manifested in perfect knowledge, the distinction between analytic and synthetic appears inappropriate to the dialectic, however relevant it might be if we were discussing the nature of knowledge itself. And, in the second place, all Hegel's detailed treatment of these divisions deals with questions which are, no doubt, of psychological and logical importance, but have nothing to do with the transition from Cognition Proper to the next category.

To this transition we now proceed. We have said that the nature of the individual reproduces that of the unity. But, if this is true, it must be equally true that the nature of the unity reproduces that of the individuals. For the unity depends on the individuals quite as much as the individuals depend on the unity. Their only meaning is to manifest it, but its only meaning is to unify them. And we have seen that such a unity can unify such individuals only on condition that the unity is for the individuals. And therefore it is just as essential for the unity that there should be the harmony, as it is for the individuals. The result of disharmony would not be more fatal to the individuals than it would be to the unity. And thus it may as well be said that the nature of the unity reproduces that of the individuals, as *vice-versâ*. Each is dependent on the other for its nature.

The same argument may be put in a different form. If a harmony is imperfect, if it is only accidentally perfect, or if the necessity of its perfection is due to some outside cause, there is some meaning in saying that B harmonises with A rather than A with B. For in all these three cases a want of perfect harmony is conceivable, and our assertion means that, in such a case, we should not condemn A for the disagreement but B. We say that the actions of a good citizen are in harmony with the law, and not that the law is in harmony with them. For we can conceive that the citizen should cease to be law-abiding; and, if he did, we should condemn his actions, and not the law, for the discrepancy.

But if a harmony is necessarily perfect, not from any external cause, but from the nature of the things which harmonise, it is meaningless to say that A harmonises with B more than B with A. For here disharmony is inconceivable, since the things only exist at all by virtue of their harmonising. And the dependence of one member of the harmony on the other is only intelligible when viewed in relation to actual or possible disharmony.

It is therefore *as* true to say that the unity reproduces the content of the individuals, as it would be to say the reverse. By this we come to the category of

VOLITION.

Volition must not be taken here as meaning the desire to change, or to resist change, which is the form in which it most usually shows itself. If this were the case there would be nothing appropriate in naming this category after it, since the category involves a perfect harmony, and also a necessary harmony, so that there can be no question of either desiring or fearing change. It is not this, however, that Hegel means by Volition here. He means that sense of approval of objective reality as in harmony with our desires and aspirations which, while it leads to action when imperfect, is incompatible, when perfect, with all change.[1] This comes out more clearly in the nomenclature of the *Greater Logic*, when he calls this category the Idea of the Good. Taken in this sense Volition is an appropriate name for a category which asserts that the unity reproduces the nature of the individual, since it is when objective reality confirms with the desires and aspirations of our own nature that we feel the approval which is the essence of perfect Volition.

Of course, as with Cognition Proper, so with Volition—it is only the perfect state which can be an example of the category. Our ordinary volition is not by any means a case of objective reality being nothing but a counterpart of our own nature. It is only when the harmony is perfect, and necessarily perfect, that the resemblance comes.

The order of these two categories—Cognition Proper and Volition—cannot be inverted for the reason given above. It is impossible that the unity should reproduce the nature of the individuals, unless the nature of the individuals is identical. And that has to be proved, before it can be asserted. The category of Cognition Proper does prove it, for if the nature of each of the individuals is a reproduction of the nature of the unity, then the nature of each of the individuals must be the same. And so we are entitled to go on to Volition.

The category of Volition, it may be remarked, is a wider category than that of Cognition Proper, and therefore a higher one. The idea of the unity reproducing the individuals is indeed no wider than that of the individuals reproducing the unity. But the category of Volition contains both of them, for we reached it by perceiving that it was as true to say the one, as to say the other—that both views are true. The course of the dialectic renders this the natural form of transition. As we approach the end of the process the Antithesis of each triad tends more and more to lose the position of a simple contrary, and to partake of the nature of a Synthesis, so as to be a definite advance on the category before it.

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[1] Lotze also takes this view of the essence of Volition, cp. *Microcosmus*, book 9, chap. v. (trans. vol ii., p. 706).

But we must remember that it is only because the category of Volition asserts equally both ideas that it is higher than the category of Cognition Proper, which asserts only one. The idea introduced for the first time in the category of Volition—the reproduction by the unity of the nature of the individual—has nothing in it higher than the previously gained idea of the reproduction by the individuals of the nature of the unity. The two ideas are strictly correlative, and neither of them has a right to be preferred to the other.

This has an important bearing on Hegel's consistency. For when we come to the applications of the Logic it is obvious beyond all doubt that Hegel has no sympathy with the doctrine which places will above knowledge, and which can see nothing in the universe so fine as virtue. He might almost have reversed Kant's saying, and declared that he found the moral ideal as trivial and unimportant as the starry heavens. This would perhaps have been an exaggeration, but there is no question that Hegel had very little admiration to spare for will, or any manifestation of will. If his Logic had placed the abstract nature of Volition above that of Cognition, he might have been fairly condemned as inconsistent for his more practical opinions. But there is nothing in those opinions inconsistent with the superiority of a category which recognises both Cognition and Volition over one which recognises Cognition only.

But the category of Volition, if it recognises both sides, does not succeed in reconciling them completely. And it is its failure to do this which supplies us with the transition to the next category. It cannot be strictly speaking the case that each side reproduces the other. One of two alternatives present themselves. Either we do not conceive the perfection of the harmony to be absolutely necessary. In that case either one of the two propositions might have an intelligible meaning, but not both. For we have seen that the only way in which we can distinguish between the reproducing and the reproduced side of the relation lies in the fact that, in case of disharmony, it is the reproducing side which ought to change, and is condemned if it does not. And this becomes unmeaning if it may be said of each side that it reproduces the other. Or on the other hand, if we take the other supposition, which is the correct one, that the perfection of the harmony is absolutely necessary, the category breaks down in another way. It is as correct and no more to say that the unity reproduces the nature of the individuals, than it is to say the individuals reproduce the nature of the unity. But the truth requires us not to say both, but, on the contrary, to say neither. For if the possibility of disharmony is absolutely unmeaning, then the distinction between reproducing and reproduced becomes unmeaning too.

When the difficulty is put this way, the answer seems simple enough. Why trouble about which side reproduces which at all? That is a question which belongs only to the sphere of harmonies actually or possibly imperfect. Here, when the whole existence of the unity on one side and of the individuals on the other has been demonstrated to lie in their harmony, it is superfluous. Neither side needs to be in dependence on the other in order to secure harmony, when the harmony is the whole nature of each. We remove the difficulty by removing all terms which assert such a dependence. Let us say that the nature of the unity and the individuals is to have the same content—a content, it is to be remembered, possessed in different ways, in the unity, and for the individuals. This gives a harmony when the two sides—the unity and the individual, or, from another stand-point, the subject and objective reality—are absolutely equal. Neither is the pattern for the other. No pattern is needed, since there is no possibility of discrepancy. The harmony is the whole reality. This gives us a third stage of Cognition in the wider sense, which, after some analogies elsewhere in the dialectic, we may call

The Transition to the Absolute Idea.

We have to find a name for this category, for it is not specially mentioned by Hegel at all. There is nothing very surprising in this, when we consider the matter attentively. As the synthesis of the triad of Cognition it would in the natural course of things be identical in substantial meaning with the thesis of the new triad. The Absolute Idea, however, which is the category succeeding Cognition, is not subdivided by Hegel at all, and it is therefore with the Absolute Idea as a whole that the synthesis of the Cognition triad will be identical. The only difference between them will be in the "collapse into immediacy" which constitutes the transition between them.

The collapse into immediacy, however, makes less and less difference between the two categories as we get farther on in the dialectic. The distinction between an idea before and after such a transition is the distinction, one may say, between looking backwards and looking forwards. As a Synthesis the idea is regarded as the solution of the difficulties already surmounted, as the Thesis of a new triad it is regarded as a challenge to difficulties yet to come. In the earlier stages of the dialectic this may make a considerable difference. For there each individual category resists, so to speak, the progress of the dialectic, and has to be pushed on, by a negative and destructive line of argument, to the next category. But as we go on the nature of the advance changes. Each category begins to lead on to its successor rather positively —by containing implicitly what the next is to develop—than negatively, by breaking down, and requiring the aid of its successor to help it out. Each category, that is, exists less in isolation, and more in the passage onwards. This being so, the difference between the Synthesis and new Thesis will diminish in the later part of the dialectic, since it is the difference between the category as a result, and the category as a new starting-point. And here, as we are making the last transition of the whole dialectic, the difference will be at a minimum.

Since there is no perceptible distinction between this category and the Absolute Idea, it is not wonderful that Hegel should have omitted to mention it separately. It is perhaps better, for the sake of clearness, to insert it. Its identity with the Absolute Idea renders it unnecessary, however, for us to treat it separately. It can be discussed when we reach that final term in the whole process. I have not ventured to suggest any name for it which would raise any controversial questions. If a descriptive name were given to it, it must be the name of some form of consciousness. For the unity is still for the individuals, and this idea can be found embodied in nothing else. And it would have to be some form of consciousness in which the distinction between the determining and determined sides of the harmony is overcome, and the harmony recognised as simple and ultimate.

It might be held that emotion could be taken as this complement—or rather this Synthesis of Cognition and Volition; that the harmony of emotion was one in which neither subject nor object was standard, but the agreement was absolute and ultimate—immediate, because it had transcended all mediation. But to give reasons in support of this would be a long and difficult matter. And it is, after all, scarcely a question for a paper on the dialectic, to consider in detail what concrete state is the best example of a given category.

There is another point to be considered before we pass to the Absolute Idea. Why, it may be asked, and asked with some reason, did we not proceed directly from Life to the third and final stage of Cognition, without passing through the two previous stages? We had already seen in Life that the unity and plurality had no meaning separate from each other—that all the meaning of each was in the other, the plurality having no meaning but to express the unity, nor the unity but to unify the plurality. By the transition into Cognition we gained the further step that this plurality could only be a plurality of individuals, for each of which the unity existed. Could we not then, without pausing at Cognition Proper and Volition, at once have reached the conclusion that the harmony between the unity and the individuals was immediate and ultimate?

In a sense I believe that we could. I believe that a valid logical transition could have been made direct from Life to the third stage of Cognition. But I believe that Hegel was wise in leading us first through the other two stages. And this for two reasons.

The first of these is that the introduction and refutation of Cognition Proper and Volition saves us from a mistake into which it might otherwise have been easy to fall. In the imperfect harmonies which we see in every-day life it is necessary that one side should be determining and one determined. For in these the harmonised things have an existence apart from their harmony. Some other reason than their existence is therefore required to account for the harmony, and this can only be the dependence of one on the other.

The influence of this is strengthened by another circumstance. The only example which we can find of the general category of Cognition is our own consciousness. But only perfect consciousness could be an example of the category in its highest form. And consciousness, as we know it, is never perfect. The knowledge and volition of which it is made up are never even perfect of their kind. And, if they were perfect of their kind, still they would not be adequate examples of the perfect category, since they each imply, as we have seen, that one side should be determining, and the other determined. Even supposing that emotion stands higher in this respect, still we never come across a state of consciousness which is pure emotion, or one which connects us completely with the whole universe.

Since, therefore, in all analogies, and in all actual examples of the category the harmony is never seen to be immediate and ultimate, there would be great danger that readers of the dialectic should forget that this immediate and ultimate harmony is what the category means, and that they should take one side as determining the other. Hegel guards against this danger by expressly stating this view, and showing that it is inadequate and must be transcended.

And there is also a second reason for the introduction of Cognition Proper and Volition. It is true that the primary object of the dialectic is to get to the end of its process, and to reach the Absolute Idea—the only really true category. But this is not the only object which it has. Another is to enable us to judge properly of the lower categories when we find them, as we always do find them, prominent in our ordinary experience. The dialectic, while it proves that none of these are absolutely true, has also to prove that they possess relative truth, and has to enable us to judge of their comparative adequacy for the expression of reality.

Now the two categories of Cognition Proper and Volition are, as their names imply, the categories which we use when we consider our actual knowledge and will. (Our knowledge and will, indeed, are not perfect examples of these categories, but they can be expressed by no others.) The exact relation, in which our knowledge and will stand to absolute reality, must always be a subject of deep interest both for life and for philosophy. And it was well worth while to make three steps when one might logically have carried us over the ground, for the purpose of showing, so far as it can be done by abstract thought, what that relation is.

To give such reasons as these in defence of steps in the dialectic involves, no doubt, that those steps have not the full objective significance which Hegel himself almost certainly assigned to them. The Absolute Idea has most emphatically objective reality. The lower categories are valid steps in the demonstration of the Absolute Idea. And, more than this, they are moments which may be discovered in the Absolute Idea by abstraction. But we cannot ascribe objective reality, even of a timeless nature, to the dialectic process itself, as Hegel exhibits it, if the end of the process could have been reached with equal validity, though with less convenience, by leaving out two stages. But the conclusion that the process itself cannot be properly allowed such reality is one which on many grounds seems to be inevitable.[1] It is a departure from

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[1] I have discussed some of these in *Studies in the Hegelian Dialectic*, chap. iv., B.

Hegel's own opinions, but one which he himself makes inevitable.

We now come to

THE ABSOLUTE IDEA,

the final category of the whole process. It is, as I mentioned above, identical with the third stage of Cognition in its meaning. Reality is a differentiated unity, in which the unity has no meaning but the differentiations, and the differentiations have no meaning but the unity. The differentiations are individuals for each of whom the unity exists, and whose whole nature consists in the fact that the unity is for them, as the whole nature of the unity consists in the fact that it is for the individuals. And, finally, is this harmony between the unity and the individuals neither side is subordinated to the other, but the harmony is an immediate and ultimate fact.

This, according to Hegel, is the absolute truth, so far as it can be reached by pure thought. There are, he asserts, no contradictions to be found in this conception which compel us to proceed to a higher category to remove them. There is, indeed, one contradiction, or rather imperfection, which reveals itself here, as in every other case where pure thought is taken in abstraction from the other elements of reality, and by means of which Hegel's philosophy is driven on from the Logic to the conception of nature, and from that to the final and supreme reality of Spirit. But with the Absolute Idea we reach the highest and final form of pure thought.

The proof that this is the final form of pure thought must always remain negative. The reason why each previous category of the Logic was pronounced not to be final was that some contradiction was discovered in it, which compelled us to go beyond it. The finality of this category rests on our inability to find such a contradiction. Hegel's assertion that it is the absolutely adequate expression of reality (in so far as pure thought can be an expression of reality) will hold good unless some more acute thinker shall discover some contradiction in it which requires and admits of removal by means of another category.

The Absolute Idea must now be considered in detail. The most interesting questions, however, which relate to it, are beyond our present purpose. These relate to the conclusions which we can draw from its nature with regard to the Philosophy of Religion. Such matters fall outside the sphere of the Logic. For they relate to the application of the principles of the Logic to a subject-matter more or less empirical, and anything empirical must be excluded from the Logic proper. Any discussion of such questions, which aspires to be anything more than the merest *Schwärmerei*, must indeed be based upon the Logic. But it must go beyond the Logic, and the empirical element in its subject-matter will always prevent it from claiming that necessity of demonstration which is the ideal of the Logic. Let us take for examples the problems of our own immortality, and of the personality of God. Any serious discussion of these must, for any inquirer who accepts the dialectic, be based on the nature of the Absolute Idea. But the conceptions of immortality, of myself, of personality, and of God, contain more than pure thought, and require treatment less rigid, and yielding results less certain, than we find when we are dealing with the categories of the dialectic.

We may notice, to begin with, that we are entitled to say that the nature of each individual is that all individuals shall be for it, and, therefore, that it shall be in harmony with all those individuals. For we saw before the nature of each individual was that the unity should be for it. Now the unity is manifested, and completely manifested, in the individuals. And therefore we may substitute the individuals for the unity, and say that it is the individuals which are in harmony with each individual.

It may be objected to this substitution that it does not do justice to the unity. It is not, it may be said with truth, the case that the unity is equivalent to the individuals in isolation, or as a mere aggregate, or as a mechanically determined whole. It is not equivalent to the individuals when they are joined in precisely this vital and all-embracing unity. To say that the unity is equivalent to the individuals would be to ignore this.

To this objection, as to a previous one, I should reply that it is the objection itself, and not the theory which fails to do justice to the vitality of the unity, and falls into atomism. For the objection assumes that the individuals would have some existence, or one at any rate conceivable, if taken as isolated, or as aggregated, or as mechanically determined. Now this is just what the dialectic, if it has done anything at all, has disproved. It has shown, not only that the individuals are in fact connected in such an intimate unity, but that it is essential to their nature that they should be, and that if they were not connected in this particular way, they would not be individuals at all. To say that each individual is in harmony with all the individuals is to say that it is in harmony with all the individuals conceived as united under the category of Cognition. And to maintain that the unity must be expressly mentioned is to confess that it is not involved in the individuality—in other words, to accept the fundamental position of atomism.

It will therefore be equally correct to say that the individuals are for each individual as to say that the unity is for each individual. Which expression we use will be merely a matter of convenience. Now philosophy, in selecting her terminology, is bound to think most, not of the convenience of philosophers, but of the convenience of that part of the outside world which is likely to become aware of the terms at all. The philosophical specialist will be able to learn, and to remember, whatever meaning it is decided that terms shall bear. But other people will insist on taking the philosophical terms which they hear in the senses in which the words are most commonly used; and, unless they are to be misled, it is the meaning which they will be disposed to attach to a phrase which we ought to consider when deciding on its use.

The chief sphere, in which metaphysical terms are important to others than professed metaphysicians, is the Philosophy of Religion. Now whether we say, in the phrase we are discussing, "individuals" or "unity," we may be misunderstood, and the misunderstanding may lead to erroneous conclusions. If the individuals are taken as meaning individuals apart from the unity, we might be led to suppose that the content which was for each individual was a crowd of disconnected other individuals, and so brought to an atomism entirely inconsistent with the Absolute Idea. If, on the other hand, we say that it is the unity which is for each individual, that may be misunderstood to mean the unity as something more than the union of the individuals. This might have in consequence the assertion, in the Philosophy of Religion, of an Absolute which, although the bond of all plurality, was also something beyond and in addition to that bond. And this would be quite as opposed to the dialectic as the opposite error is.

Which of these two mistakes requires to be most guarded against? I think the latter—the hypothesis of the unity. It is true that atomism is the philosophical error into which common-sense, as a rule, falls most easily. But, on the other hand, when idealism has been once accepted, there is considerably less danger of atomism than of the undue isolation of the unity from its manifestation. And as it is only those who have accepted idealism who would be inclined to accept, either in a right or a wrong sense, any of the later categories of the dialectic, it would seem that it is safer to speak of the individuals than of the unity, if either expression is to be used exclusively.

If, however, we say that the individuals are for each individuals, the question arises whether we can properly say that each individual is for itself. We found reason to believe that nothing could be for the unity, because the unity had nothing outside it. And it would seem that, on the same principle, we ought to deny that an individual can be for itself, since it is not outside itself. But this, I think, is erroneous. Each individual is not isolated, but part of a complete unity with other individuals which are outside itself. Its whole nature lies in the fact that it is a part of the unity—that is its whole nature lies in something which is as much outside itself as in itself. And that being so there seems no difficulty in saying that for each individual there exist, not only other individuals, but also itself. An isolated individual could not be for itself, but then an isolated individual could not exist. All this would not apply to the unity, which is, by its definition, a self-contained unity, and has no relations with outside reality, since there is no reality outside it.

The nature of each individual is, then, that all individuals are for it. Its nature thus depends on their natures. But the nature of each of them is the same. Thus the ultimate nature of each is that its similarity to the others is present to itself—in more concrete form, that it is conscious of its harmony with each of the others.

The view we have here taken of the Absolute Idea appears to be borne out by Hegel's own language. He does not treat the positive nature of that idea at any great length, but he does give a definition of it. In the *Smaller Logic* the definition runs as follows: "Die Idee als Einheit der subjektiven und der objektiven Idee ist der Begriff der Idee, dem die Idee als solche der Gegenstand, dem das Objekt sie ist; ein Objekt in welches alle Bestimmungen zusammengegangen sind. Diese Einheit ist hiermit die *absolute und alle Wahrheit*, die sich selbst denkende Idee, und zwar hier *als* denkende, als *logische* Idee" (*Enc.*, section 236).

What Hegel means by saying that the Idea is the Notion of the Idea, I must confess myself unable to understand. The Idea is, according to him, itself a variety of the Notion. But that the Idea is *Gegenstand* and *Objekt* to itself (or to its own Notion), seems a clear indication that reality is for itself, and that it is only consciousness which affords an adequate example of the final category.

It is true that there is no express recognition of any differentiation, nor of the fact that it is one part of reality which is for another part. But that reality is essentially differentiated, in Hegel's conception, becomes clear if we look back to the previous categories. It is impossible to doubt that, under the category of Life, he regarded it as differentiated. There was nothing in the transition to Cognition to remove this differentiation, and indeed the treatment of Cognition makes it obvious that this category, also, was differentiated. But, again, there is nothing in the transition from Cognition to the Absolute Idea which removed the differentiation, which, therefore, must be there still.

We have said that the nature of each individual consists in the fact that its similarity to the others is present to it—in other words, that its nature consists in certain relations to other individuals. This view must not be confounded with that suggested by Green that "for the only kind of consciousness for which there is reality, the conceived conditions are the reality".[1] For there is all the difference possible between attempting to reduce, as Green has done, one side of an opposition to the other, and asserting, as we have done, that the two sides are completely fused in a unity which is more than both of them.

Experience can be analysed into two abstract, and therefore imperfect, moments—the immediate centres of differentiation and the relations which unite and mediate them. The extreme atomistic view takes the immediate centres as real, and the mediating relations as unreal. Green's view, as extreme on the other side, takes the relations as real and the centres as unreal. The view of the dialectic, on the contrary, accepts both elements as real, but asserts that neither has any separate reality, because each is only a moment of the true reality. Reality consists of immediate centres which are mediated by relations. The imperfection of language compels us to state this proposition in a form which suggests that the immediacy and the mediator are different realities which only influence one another externally. But this is not the case. They are only two sides of the same reality. And thus we are entitled to say that the whole nature of the centres is to be found in their relations. But we are none the less entitled to say that the whole nature of the relations is to be found in the centres.

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[1] *Works*, vol. ii., p. 191.

Our view, however, although free from this one-sidedness, may seem to involve a circle. That A's nature should consist in recognising B's nature, would present no difficulties, if B had an independent nature of its own. But if B's nature consisted merely in recognising A's nature, it is not very easy to see how they can either of them have any nature at all. Nor is the matter improved by the increase of the number of individuals. A's nature, it is true, will then consist in the recognition of the natures of a large number of individuals, and the nature of each of these will not consist exclusively in recognising A's nature. But in each case it will consist in the recognition of the nature of other individuals, and the difficulty recurs. If the nature of everything consists simply in reflecting others, what is there to be reflected? The word reflecting, indeed, would not be correct if it implied that the individual for which the content exists was passive. But, for our present purpose, it is sufficient that the individual has no other content, whether the content is produced actively or passively.

To demand that the Logic should give us a complete account of the nature of reality, indeed, would be unreasonable. Pure thought is only one element of reality—an element which is found in every part of the whole, but which still is not the whole, and the Logic can therefore only supply a skeleton. But still, the Logic is bound, in its own department, to supply an account which is not contradictory; and unless we are able to avoid the circle which has been indicated above, this will not have been done.

There is only one way in which such a circle can be avoided. Each individual must have a separate nature of its own, so that the others, when they recognise their own as similar to it, may have something to which they recognise themselves to be similar. At the same time, it is clear from the dialectic that the nature of the individuals lies wholly in their connexions with one another—that it is expressed nowhere else, and that there it is expressed fully. It follows that the separate and unique nature of each individual must be found only, and be found fully, in its connexions with other individuals—in the fact, that is, that all the other individuals are for it.

This must not be taken to mean that the connexion is the logical *prius* of the individual nature—that the latter is in any sense the consequent or result of the former. Nor does it mean that the individual natures could be explained or deduced from the fact of connexion. Such theories would, in the first place, be quite invalid. For they would be attempts to get more in the conclusion than there was in the premisses—to proceed from the simple unity to a unity which was also differentiated. And any attempt to get more out of the premisses than there is in them, is necessarily invalid.

And, moreover, such an attempt would be quite contrary to Hegel's principles. His position is essentially that reality is a differentiated unity, and that either the differentiation or the unity by itself is a mere abstraction. And it would be contrary to all the lessons of the dialectic if we supposed that one moment of a concrete whole could be either caused or explained by the other moment. It is the whole which must be alike the ground and the explanation of the moments.

What we have to maintain here is not that the characters of the individuals are dependent on their connexions, but, on the contrary, that the characters and the connexions are completely united. The character of the individual is expressed completely in its connexions with others, and exists nowhere else. On the other hand the connexions are to be found in the nature of the individuals they connect, and nowhere else, and not merely in the common nature which the individuals share, but in that special and unique nature which distinguishes one individual from another.

This completes our definition of the Absolute Idea. Not only has the nature of each individual to be found in its recognition of its similarity with all the rest, but the nature which is to be found in this recognition must be something unique and distinguishing for each individual. The whole difference of each individual from the others has to be contained in the perception of its harmony with the others.

We need not be alarmed at the apparently paradoxical appearance of this definition. For all through the doctrine of the Notion, and especially in the Idea, our categories have been paradoxical to the ordinary understanding. Even if we could find nothing in experience which explicitly embodied this category, we should not have any right, on that ground, to doubt its validity. If the arguments which have conducted us to it are valid, we shall be compelled to believe that this, and this only, is the true nature of absolute reality. The only effect of the want of an example would be our inability to form a mental picture of what absolute reality would be like.

I believe, however, that we can find an example of this category in experience. It seems to me that emotion, considered as perfect, would give such an example, and we should thus find additional support for the conclusion which we reached when we were considering the Transition to the Absolute Idea—that in emotion, if anywhere, we can find a revelation of absolute reality.

It is clear, in the first place, that our example must be some form of consciousness. For the nature of the individual is still to have all reality for it, and of this idea, as we have seen, we can imagine no embodiment but consciousness.

Knowledge, however, will not be what is required. We want a state such that the individuals' recognition of their harmony with one another shall itself constitute the separate nature of each individual. In knowledge the individual recognises his harmony with others, but this is not sufficient to constitute his separate nature. It is true that knowledge not only permits, but requires, the differentiation of individuals. Nothing but an individual can have knowledge, and if the individuals were merged in an undifferentiated whole, the knowledge would vanish. Moreover, in proportion as the knowledge of a knowing being becomes wider and deeper, and links him more closely to the rest of reality, so does his individuality become greater. But although the individuality and the knowledge are so closely linked, they are not identical. The individuality cannot lie in the knowledge. Men may, no doubt, be distinguished from one another by what they know and how they know it. But such distinctions depend on the limitations and imperfections of knowledge. A knows X, and B knows Y. Or else A believes X_1 to be the truth, while B believes it to be X_2. But for an example of a category of the Idea we should have, as we have seen above, to take perfect cognition. Now if A and B both knew X as it really is, this would give no separate nature to A and B. And if we took, as we must, X to stand for all reality, and so came to the conclusion that the nature of A and B lay in knowing the same subject-matter, knowing it perfectly, and, therefore, knowing it in exactly the same way, we should have failed to find that separate nature for A and B which we have seen to be necessary.

Nor can our example be found in volition. Perfect volition would mean perfect acquiescence in everything. Now men can be easily differentiated by the fact that they acquiesce in different things. So they can be differentiated by the fact that they acquiesce in different sides of the same thing—in other words, approve of the same thing for different reasons. Thus one man may approve of an *auto da fè* on the ground that it gives pain to the heretics who are burned, and another may approve of it on the ground that it gives pleasure to the orthodox who look on. But there can only be one way of acquiescing in the whole nature of any one thing, and only one way, therefore, of acquiescing in the whole nature of everything, and the ground of differentiation is wanting.

The only form of consciousness which remains is emotion. And if the consciousness of harmony takes this form, I do not see that the same objections apply as with the other two forms. Perfect knowledge of C must be the same in A and B. Perfect acquiescence in C must be the same in A and B. So much is sure. But I cannot find any reason why perfect love of C should not be different in A and B—should not be the differentiation required to make A and B perfect individuals. One might, perhaps, even go farther, and say that we find in emotion positive traces of this characteristic. But, since this is not a question for pure thought, I do not wish to consider it further here.

We are thus led by two converging lines of argument to the same conclusion. Any adequate example of the Absolute Idea had to be such that there was an absolute balance between the individual for which all reality existed, and the reality which was for it—neither being subordinated to the other, and the harmony being immediate. And, again, any adequate example of the Absolute Idea had to be such that each individual's separate and distinct nature had to be found in its connexion with other individuals. The example must be within consciousness, if it is anywhere. Cognition and Volition failed according to both tests. Emotion may be held to be more successful. This, at any rate, I think we are justified in concluding—either absolute reality becomes explicit for us in emotion, or it does not become explicit for us at all.

What Hegel's own opinion on this question was, seems rather doubtful. It is, I think, almost certain, for the reasons given above, that he regarded the Absolute Idea as realised in consciousness. And, if we confine ourselves to the *Logic*, there would be good reasons for supposing that the form of consciousness which did this was emotion. For the categories of Cognition and Volition are each demonstrated to be imperfect, and to require to be synthesised before the Absolute Idea is reached. This seems to show that it is not knowledge or Volition which can be taken as such an adequate manifestation, and what can remain but emotion?

But, on the other hand, when we are dealing, not with pure thought, but with concrete reality, it is to the *Philosophy of Spirit* rather than the *Logic* that we must turn for a decision. Now in the *Philosophy of Spirit* Hegel gives Philosophy as the supreme stage of Spirit. He may have been inconsistent in doing this, but that he did it is beyond question. And it seems impossible to take Philosophy as anything but a species of knowledge.[1]

Having reached the end of the dialectic let us consider what it has taught us about the relations of unity and plurality. From some points of view this may be considered the fundamental question in the dialectic, and it is the one round which a large number of misconceptions of Hegel's meaning have gathered. The relation of unity to plurality is a phrase which may mean several things. It may mean the relation of the fact of the unity to (*a*) the fact that there is a plurality, (*b*) the fact that the plurality consists of the precise number of individuals of which it does consist, (*c*) the fact that those individuals have the precise nature which they do have.

As to the first of these questions, we have already given the answer. The unity is not the ground of the plurality. Nor can the plurality be explained from the unity. The relation that does exist between them is that, given the unity, we can infer the existence of the plurality, and, given the plurality, we can infer the existence of the unity. We can do this just because neither of them is logically prior to the other, and neither of them is an ultimate reality on which the other can be based. It is because each of them is a mere moment, and, therefore, taken in abstraction from the others is contradictory and impossible, that we are entitled to conclude from the existence of the one to the existence of the other. And there is no more serious, or more common, mistake in interpreting Hegel, than to suppose that the moment of plurality can be reached from the moment of unity in any way in which the moment of unity cannot be reached from the moment of plurality.

As to the second question — the relation between the unity and the precise number of individuals—it resolves itself into the third. For if the precise nature of the individuals is determined, their precise number is determined by that. This becomes clear as soon as we pass beyond the category of Quantity—one of the earliest and most abstract in the dialectic. If we look on a collection of units — say seventeen apples — as a mere numerical aggregate, then no amount of knowledge of the nature of those apples will ever explain to us why the number was not eighteen or sixteen. But this is only because such a category abstracts from all the reciprocal influences of one thing or another. Directly we come to the conception of the things as mechanically determined we see that the nature determines the number. For if there was one less or more, all the relations would have to be different, and, consequently, all the things themselves. Still more patent is this in the case of such a unity as we have in the Absolute Idea. Since the whole nature of each individual lies in its connexions with all the others, it is obvious that no individual could be added to the whole, or subtracted from it, unless all the others were completely altered.

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[1] I have discussed this point at greater length in *Studies in the Hegelian Dialectic*, chap. vi.

There remains, then, the question as to the relation between the fact of the unity and the special natures of the individuals which it unites. It is clear, in the first place, that, since the unity is not the ground or the explanation of the bare fact of the existence of some plurality, it can still less be the ground or the explanation of the fact that the plurality is precisely what it is. And again, it is clear that from the existence of this precise plurality we can infer the existence of the unity, since we can infer this from the existence of any plurality at all. But can we reverse the process, and, from the existence of the unity, infer the existence of this particular plurality?

So far as the present state of our knowledge goes this question must be answered in the negative. The nature of the unity is known to us by pure thought in the dialectic. But this knowledge will certainly not enable us to prove that the individuals, which form the plurality, must be precisely what they are, have (to put the thing in another form) the precise connexions that they have, and, consequently, be exactly the number that they are. If we were able to make such a proof then we could deduce all the particulars of Nature and Spirit from the Absolute Idea in the same way that we can deduce the existence of Nature and Spirit. We could demonstrate by pure thought, for example, that the sinking of the *Merrimac* or the precise shape of Cuba could not be otherwise if there was to be any experience or any reality at all. And our deductions could go beyond what is now empirically known. The philosopher could prove from the Absolute Idea how many times he should sneeze in his next cold, and the figure at which Consols would stand next month. It is certain we cannot do this, and it is evident that Hegel never thought that we could. Whatever faults we may find in the applications of the dialectic, there is no trace of any attempt to deduce the facts of experience from the Absolute Idea.

There are thus, when the dialectic has reached its furthest point, two elements left in experience which are independent of one another in the sense that neither can be reduced to the other. There is, on the one hand, the element of pure thought, which tells us, within certain limits, what our experience must and must not be, and there is the other element, known to us by sensation or introspection, which informs us of what experience in fact is.

All human language has an unfortunate tendency to suggest the categories of Essence, even when those categories are entirely inappropriate. And therefore such a statement as was made in the last paragraph looks as if Hegel's philosophy ended, after all, in a dualism, and he had failed in his object of demonstrating the complete rationality of the universe. But this is a mistake. The two elements of our experience are not two separate spheres of reality, and they are not even two separate realities which act and react on one another. As separate, they are not real at all, as may easily be seen by any one who tries to think of a category without thinking at the same time of matter of sensation, or *vice versâ*. The only reality is the concrete whole of experience, from which they are both abstractions. There is no dualism in saying that two moments may be detected in a reality, and that, while both of them are dependent on the whole, neither is dependent on the other.

Nor does the co-existence of these two moments in any way interfere with the complete rationality of the universe. There is no part of reality which is not completely penetrated with the Absolute Idea. So far as anything had any part of itself not penetrated with the Absolute Idea it would have no reality at all. Thus nothing can exist except in so far as it embodies reason, and is in harmony with reason. And this is all that is required. The real is more than abstract rationality, but the real is completely and utterly rational. This is surely all that any philosophy wants, however high its ambitions may be. At any rate it would be difficult to prove that Hegel ever wanted anything more.

A word of caution is necessary here. We have seen that we cannot from the fact of the unity infer the particular nature of the plurality—in other words that, for our present knowledge, the Absolute Idea and the matter of sensation are to a certain extent contingent to one another. But this assertion of a limitation of our present knowledge, perhaps of all knowledge, must not be converted into an assertion about the facts. We must not say that it is possible that the Absolute Idea and the matter of sensation are really contingent to one another, and that it is possible that the Absolute Idea might have been combined with a different content. Such a statement would be unmeaning, as, indeed, in the long run, every statement must be which speaks of possible, but unreal, universes. If we look at anything by itself, there is no ground for saying that it could have been other than it was. For this only means that some other reality could not or would not have prevented it. The universe must be looked at by itself, for there is nothing outside it in whose company we can look at it. And thus to talk of the possibility of a different universe is meaningless. There is no reality on which such a possibility can be based. So long as the universe is taken as real, it cannot be different from what it is. If the universe is not taken as real, all possibilities and impossibilities have vanished with everything else.

The supposition that the Absolute Idea could possibly be combined with a different immediate element is due to the belief that the element of pure thought is the logical *prius* of the element of immediacy, and so forms a skeleton or framework, which could be filled up in different ways without any change in its own nature. But we have seen that this is an entirely mistaken view of the matter. It is the concrete whole of reality which is the logical *prius* of both its moments. Neither of these moments has any priority over the other, and still less over the whole. Thus we cannot take pure thought as a basis, and speculate on the possibility of its combination with a different immediate element. The only ultimate basis is the nature of reality as a whole. And to assert a possibility of any change in this would involve the idea of a possible, but unreal universe, which we considered in the last paragraph.

We have said that, for our present knowledge, there is a certain contingency between the two elements of reality. Whether this is a necessary characteristic of all knowledge, we cannot tell. It may not be so. It is possible that perfect knowledge of the universe would enable us to see that any variation in the details of its plurality would be incompatible with the completeness of unity and differentiation demanded by the Absolute Idea. If this were so, then, for a person who possessed such perfect knowledge, the precise nature of the plurality would be in the same position as the abstract fact of plurality is for us, and could be inferred from the fact of the unity. In such a state of knowledge the only question left unanswered would be the question: Why is reality as a whole what it is? Such a question cannot be answered, for it ought not to be asked. If the cognitive mind still persists in asking it, as I fancy it does, that will discredit, not the complete rationality of reality, but rather the complete reality of cognition. It will be a fresh support for the view which I believe to be the ultimate fruit of the whole dialectic—that reality is nothing more than consciousness, but that consciousness is a great deal more than thought.

II.—REMARKS ON THE PREDICATES OF MORAL JUDGMENTS.

By Edward Westermarck.

That the various predicates of moral judgments are ultimately based on emotions of either indignation or approval seems to me to be a fact which ethical intellectualists have in vain attempted to deny. By this I mean that without such emotions there would have been no moral predicates at all. These predicates involve generalisations of emotional phenomena made by man in the course of time. They do not state the actual existence of a specific emotion in the mind of the person judging, or of somebody else; they indicate a tendency to call forth a moral emotion, just as "pleasurable" denotes a tendency to give pleasure, and "frightful" a tendency to inspire fear. Like all general terms they are used without any distinct idea of their contents. But I think that an exhaustive analysis of them must ultimately trace them back to the emotions mentioned. In a genuine moral judgment the tendency of its subject to call forth indignation or approval necessarily refers to him who pronounces it. If I say that a certain mode of conduct is bad or good, and if I mean what I say, the predicate of my judgment implies that its subject is apt to evoke moral indignation or moral approval in myself. But besides this the moral predicate has a character of generality. It seems to apply some vague assumption that the object in question is apt to give rise to the same moral emotion in the mind of every one who possesses a sufficient knowledge of the case and of all the attendant details, who has a "sufficiently developed moral sense," or the like.

Space does not permit me to attempt anything like a detailed analysis of the moral emotions. Such an analysis would require an examination not only into the predicates of moral judgments, but into their subjects. I must be contented with indicating that moral indignation is a hostile, and moral approval a friendly, attitude of mind towards its object; that the objects which give rise to moral emotions belong to the very same groups of phenomena as those which are apt to call forth resentment and gratitude; and that the essential differences between moral indignation and resentment, and between moral approval and gratitude consist in the disinterestedness and relative impartiality which characterise every moral emotion. A comprehensive study of the moral ideas of various nations and in various ages confirms the ingenious hypothesis set forth by Adam Smith, that resentment and gratitude belong to the root-principles of the moral consciousness—a circumstance all the more satisfactory to the student of psychical origins as anger towards an ill-doer and friendliness towards a well-doer are mental facts easily explicable as results of natural selection. How these primary attitudes of mind have been modified, chiefly through sympathy and social influences, into moral emotions, does not concern us at present. I merely wish to point out the fact, generally overlooked, that the impartiality which a moral emotion presupposes is not absolute, only relative, that is, impartiality within certain limits. Absolute impartiality, I understand, would concede to all sentient beings equal rights. But where is it to be found, and who would look upon it as equitable? The moral estimation recognises classes with different rights. It requires impartiality within the limits of each class, but those limits themselves may have been drawn with the greatest partiality. If, for instance, a savage censures as wrong a homicide committed upon a member of his own tribe, but praises as meritorious one committed upon the member of another, he attributes different rights to the members of the respective tribes, and his indignation and his approval possess not only that personal disinterestedness, but at the same time that relative impartiality, which is required by tribal morality.

After these preliminary remarks, I shall proceed to what is the chief object of the present article, *viz.*, to show in what relation the various moral predicates stand to the emotions of indignation and approval. Such a detailed examination will, I think, afford the best proof possible of the emotional basis of the moral consciousness.

In modern Ethics the conception of *ought* generally occupies a central position among moral predicates. It is frequently looked upon as an ultimate and unanalysable notion, as "too elementary"—to quote Prof. Sidgwick[1] —"to admit of any formal definition" This view, I think, instead of simplifying the matter, has been the chief cause of the prevailing confusion in ethical thought. Far from being a simple notion, "ought"[1] appears to me clearly decomposable, even though it may have a special flavour of its own. First of all it expresses a conation. When I feel that I ought to do a thing, I experience an impulse to do it, even though some opposite impulse may finally be the successful determinant of my action. And when I say to another man, "You ought to do this or that," there is certainly implied a conation on my part that he should do it. In the notion of *duty*, the moral content of which is identical with that of "ought," this conative element is not so obvious.

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[1] Sidgwick, *The Methods of Ethics* (1893), p. 34.

Closely connected with the conative nature of ought is the imperative character it is apt to assume. Nevertheless, though being frequently used imperatively, "ought" is not necessarily and essentially imperative. Even if the "ought" I address to myself may, in a figurative sense, be styled a command, it is impossible to speak of a present command with reference to past actions. The common phrase, "You ought to have done this or that," cannot be called a command.

The conation expressed in "ought" is determined by the idea that what ought to be is not, or will possibly not be. It is also this idea of its non-existence that determines the emotion which gives to "ought" the character of a moral predicate. What ought not to be is apt to call forth moral indignation; this is the most essential fact involved in the notion of "ought". It has often been observed that the so-called negative commandments, which tell men what they ought not to do, are more ancient than the positive commandments which tell them what they ought to do. It is easy to understand why this is the case. The negative commandment is the simpler and more natural expression of "ought". Every "ought"-judgment contains implicitly a negation. Nobody would ever have dreamt of making a moral injunction if the idea of its transgression had not presented itself to his mind. When Solon was asked why he had specified no punishment for one who had murdered a father, he replied that he supposed that it could not occur to any man to commit such a crime;[1] and the modern Shintoist concludes that the primæval Japanese were pure and holy from the fact that they are represented as a people who had no moral commandments.[2] It is this prohibitive character of "ought" that has imparted to duty that idea of antagonism to inclination which has found its most famous expression in the Kantian ethics, and which made Bentham look upon the word itself as having in it "something disagreeable and repulsive".[3] It is this intrinsic connexion between "ought" and "wrong" that has given to duty the most prominent place in ethical speculation whenever moral pessimism has been predominant. Whilst the ancient Greeks, with whom happiness was the state of nature, never spoke of duty and held virtue to be the Supreme Good, Christianity, on the other hand, which looked upon man as a being born and bred in sin, regarded morals pre-eminently as the science of duty. Then, again, in modern times, Kant's categorical imperative came as a reaction against that moral optimism which once more had given the preference to virtue, considering everything in the world or in humanity beautiful and good from the very beginning.[4] It is also worth noting that the feeling of self-complacency connected with the consciousness of having acted in accordance with the law of duty has no distinctively expressive name in ordinary language, while the opposite feeling is known by so familiar and distinctive a term as "remorse". This is not, as has been said,[5] "a significant indication of the moral condition of mankind," but a significant indication of the true import of the notion of duty itself.

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[1] I need hardly say that "ought," "wrong," "right," etc., are here used only in their moral sense. I shall not discuss the relation between the moral and non-moral meaning of these terms, since I believe that such a discussion would not help us to solve our problem. Language is a rough generaliser. The attempt to apply the philological method to an examination of moral conception has proved a failure—which may be seen from Mr. Baynes's book on *The Idea of God and the Moral Sense in the Light of Language* (1895).

We may undoubtedly applaud him who is faithful to his duty, but the idea of duty involves no applause. There is no contradiction in the omission of an act being disapproved of and the performance of it being praised. "Ought" and "duty" express only the disapproval of its omission, and say nothing about the consequences of its performance. The conscientious man refuses the homage paid to him, by saying, "I have only done my duty". Duty is a "stern law-giver," who threatens with punishment, but promises no reward.

The ideas of "ought" and "duty" thus spring from the same source as the idea of *wrong*, that is, from the emotion of moral indignation. To say that a man ought to do a thing is, so far as the morality of his action is concerned, the very same thing as to say that it is wrong of him not to do it. And the wrongness of an action is nothing but its tendency to call forth moral indignation.

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[1] Diogenes Laërtius, *Solon*, ch. x.; Cicero, *Pro S. Roscio Amerino*, ch. xxv.

[2] Griffin, *The Religions of Japan*, p. 72.

[3] Bentham, *Deontology*, vol. i., p. 10.

[4] *Cf.* Ziegler, *Social Ethics*, pp. 22, 75, *sq.*

[5] Murray, *An Introduction to Ethics*, p. 108.

"Wrong" is popularly regarded as the opposite of *right*, and they are really contradictories in a certain sense within the sphere of moral valuation. We do not call the actions of irresponsible beings "right," although they are not wrong, nor do we pronounce morally indifferent actions of responsible beings to be "right," unless we wish thereby especially to mark their moral value, as not being wrong. If the question is put whether it is right for a man to do a certain thing, the answer may be in the affirmative, and can certainly not be in the negative, in case the act is not regarded as wrong. But the most proper answer would be, that he has *a* right to do it. The adjective "right," in its strict sense, refers to cases from which the indifferent is excluded. A right action is *the* right action, and other alternatives are wrong. "Right" is thus closely related to "ought," but at the same time "right" and "obligatory" are not identical. I cannot subscribe to the view of Prof. Sidgwick, that "in the recognition of conduct as 'right' is involved an authoritative prescription to do it".[1] What is right is in accordance with the moral law; the adjective right looks upon duty as fulfilled. It is true that the super-obligatory also is right. But "right" takes no notice of the super-obligatory as distinct from the obligatory, and what goes beyond duty always involves the fulfilment of some duty. It may be admitted to be "not only right," but not to be more right. Right has no comparative. A duty is either fulfilled or not, and unless it be perfectly fulfilled the conduct is wrong. There are degrees of wrongness and of goodness, as the moral indignation and the moral approval may be stronger or weaker, but there are no degrees of rightness.

The fact that the right action is a duty fulfilled, accounts for the erroneous opinion so generally held by ethical writers, that "right" is intrinsically connected with moral approval.[2] The choice of the right alternative may give us satisfaction, but satisfaction is not the same as approval or praise. We may even praise it, but "right" *per se* involves no praise. It is right to abstain from killing, robbing, lying, but it is not generally regarded as praiseworthy. "Right," as well as "ought" ultimately derives its moral significance from moral indignation. This may seem strange considering that "right" is commonly looked upon as positive and "wrong" as its negation. But we must remember that language and popular conceptions in these matters are modelled on the idea of a moral law. Wrong is to be prohibited, and the prohibition is expressed in a command. The breach of it is wrong, the obedience to it is right.[1] But the fact which gives birth to the command itself is the indignation called forth by that which the command forbids.

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[1] Sidgwick, *loc. cit.*, p. 106 *sq.*

[2] Hutcheson, *An Essay on the Nature and Conduct of the Passions and Affections with Illustrations on the Moral Sense* (1728), p. 279; Clifford, *Lectures and Essays* (1886), pp. 294, 304 *sq.*; Fowler and Wilson, *The Principles of Morals*, vol. ii., p. 199; Alexander, *Moral Order and Progress*, p. 399; etc.

I have spoken here of "right" as an adjective. Used as a substantive to denote *a right*, it also has a negative character. It essentially contains a prohibition. In the notion of a right there is always immanent the idea that any infringement of that which constitutes the right is inadmissible, being prohibited either by positive law, in the case of a legal right, or by the moral law, in the case of a moral right. To attribute a moral right to an individual is thus to recognise that no hindrance ought to be put in the way of the realisation or enjoyment of what is his right. And this character of inviolability belongs to a right on account of its always being a right to an activity or to a state of existence which is not wrong.

The notion of "a right" thus derives its import from the notion of "ought". To every right there is consequently a corresponding duty, the duty of not intruding upon it, of not preventing its possessor from making use of it, of not blaming him for doing so. This duty is a universal duty, incumbent upon every one who has any duties at all, although it may practically affect some special individual, or individuals, more than other. In this point theorisers upon rights have frequently been guilty of a confusion of thought. It has been said, for instance, that if parents have a right to obedience from their children, the corresponding duty is that children are obliged to obey their parents. But the parents' right does not really consist in the obedience of their children, they have a right to command obedience from them, to try, within certain limits, to compel them to obey, and the duty corresponding to this right is the universal duty of not preventing them from doing so. That there is no necessary connexion between the right to command obedience and the duty to obey, appears, for example, from the fact that a man undoubtedly has a right to compel his horse to submit to his will (unless, by doing so, he makes himself guilty of cruelty), whereas it is impossible to attribute to the horse the duty of obedience. The circumstance that in many, though not in all, cases a right is a right to a mode of conduct which has reference to some particular person, or class of persons, has disguised the truth that, whilst rights may be individual, their corresponding duties are always universal.

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[1] This way of looking upon the matter also accounts for the fact that "wrong" and "right" as moral predicates, refer to conduct, not to character. We do not command a man to have a certain character.

It has been maintained that rights and duties are really identical, it being always a duty to insist upon a right.[1] No doubt, if anybody prevents me from making use of my right, I ought to insist on it, inasmuch as it is a duty not to tolerate wrong. But this does not make rights and duties identical. In innumerable cases rights imply such duties, and the implication is more frequent according as the moral standard is more rigid. In proportion as the sphere of duties is extended, the sphere of what is permissible, without being obligatory, is restricted. But even the strictest judge does not in practice abolish the merely permissible. Those who maintain that there is nothing morally indifferent, and nothing that goes beyond duty, who, in other words, look upon all conduct of responsible beings as either wrong or obligatory, they of course are bound to draw the conclusion that a right in every case is a right to perform a duty. But their premise is psychologically incorrect, being contrary to the moral consciousness as it actually exists. Even though it be my duty to insist upon my right when it is infringed, it is not always my duty to exercise a right I possess. And if a man's right happens to coincide with his duty, we say that it is not only his right but also his duty, which shows that these notions are in no case identical.

As there is a universal duty corresponding to each right—the duty to respect it—so there is a universal right corresponding to each duty — the right to disapprove of its transgression. The universality of this right is not invalidated by the fact that the permissible means of expressing disapproval vary indefinitely. Everybody has a right to try, within certain limits, to prevent the transgression of a duty, but everybody has not, except in extreme cases, the right of actual compulsion nor the right of inflicting punishment, in the ordinary sense of the word, upon the transgressor. It is a universal right to arrest the assassin's dagger, even if it be at the cost of his life, but it is not a universal right to compel a child to obey its parents. Among the ancient Teutons it was a universal right to kill an outlawed man; but, as a general rule, the right to punish an offender was restricted to the injured man and his family, and in later times it was transferred to the State. When the transgression of a duty consists in the violation of somebody's right, the offended party, however, has retained a particularly important share in the universal right corresponding to the duty. It is true that there has been a general tendency, in the course of evolution, to restrict this share within more and more narrow limits. Self-revenge has been succeeded by State-punishment; the paternal authority has lost its rigidity; the right to hate an enemy has been theoretically transformed even into a duty to love him. Nevertheless, in spite of the commandment of an idealistic moral code, public opinion, even in the most civilised societies, gives to the sufferer a certain right of retaliation, especially if his honour has been attacked, and to injured nations the right of war.

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[1] Alexander, *loc. cit.*, p. 146 *sq.*

Besides the corresponding right every duty gives to all who are capable of possessing rights, it carries with it a special right, that of performing the duty—in somewhat the same way as every right brings with it the duty of not tolerating its violation. It is almost superfluous to point out the inaccuracy of which certain writers are guilty, when speaking of "colliding duties," just as if, in a certain moment, a man could have a duty which he had no right to perform. The so-called "duties" only represent, in a rough way, modes of conduct which under ordinary circumstances are obligatory. The "duties" a man owes to his family, for instance, do not really imply that he, under all circumstances, ought to look after its special interests, and can never collide, say, with the duty of patriotism. It is an odd way of putting it to say that a lower duty has to give way to a higher duty, since "the lower duty" in case of "collision" is no duty at all. An action which a man ought not to do, and which he has no right to do, never can be called his duty.

In some way connected with the notion of "rights" is the notion of *justice*. It is thus defined in the *Institutes* of Justinian: "Justitia est constans et perpetua voluntas jus suum cuique tribuendi"—"Justice is the constant and perpetual will to render to each one his right". In fact only the discharge of a duty corresponding to a right is called "just," in the strict sense of the word, only the violation of a right is called "unjust". At the same time "justice" and "injustice" are not simply other names for respecting and violating rights. It is true, as Adam Smith observes,[1] that "we may often fulfil all the rules of justice by sitting still and doing nothing," and that the man who barely abstains from violating either the person or the estate or the reputation of his neighbours is so far a just man. But we do not generally call him just. "Justice" involves something besides the mere respect for a right.

Whenever we style an act "just" or "unjust," we emphasise its relative impartiality or partiality. We do not denominate murder and robbery unjust, but wrong or criminal, because the terms "murder" and "robbery" lay stress, not upon the iniquity of the act, but upon its general wrongness or criminality. We admit however at once their gross injustice, when we consider that the murderer and robber indulged their own inclinations with utter disregard of their neighbours' rights. And we look upon "unjust" as an exceedingly appropriate term for a judge who condemns an innocent man with the intention to save the culprit, and for an employer who robs his servants by withholding their stipulated wages.

The essence of justice lies in impartiality within the recognised order of rights. This impartiality, as we have already seen, is only relative, because the distribution of rights itself may be partial. In a society which regards slavery as a morally permissible institution, a man is not necessarily deemed unjust if he beats a slave in a case where it would have been wrong to beat a free man. Justice requires impartiality within the sphere of equal rights. A father is unjust if he gives away property to one of his children in preference to others, in case all of them are recognised to have a right to an equal share in his property, even though it be only a conditional right; and a man is unjust if he keeps for himself a profit to which another man has an equal right. Moreover, in the case of unequal rights, justice admits of no greater "inequity" of treatment than what the difference in rights implies. It is just to punish a man who by a crime has forfeited that right to be protected from wilfully inflicted pain which every law-abiding citizen possesses, but it is unjust to extend the inequality between his condition and the condition of others beyond the inequality of their rights by inflicting upon him a punishment which is unduly severe.

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[1] Adam Smith, *The Theory of Moral Sentiments* (Bohn's edition), p. 117

It is, so far as I can see, the emphasis laid on impartiality that gives the justice a special prominence in connexion with punishments and rewards. A man's rights depend to a great extent upon his actions. Other things equal, the criminal has not the same rights to inviolability as regards reputation, or freedom, or property, or life, as the innocent man; the miser and the egoist have not the same rights as the benefactor and the philanthropist. On these differences in rights, due to differences in conduct, the terms "just" and "unjust" lay stress: for in such cases an injustice would have been committed if the rights had been regarded as equal. When we say of a criminal that he has been "justly" imprisoned, we point out that he was no victim of undue partiality, as he had forfeited the general right to freedom on account of his crime. When we say of a benefactor that he has been "justly" rewarded, we point out that no favour was partially bestowed upon him in preference to others, as he had acquired the special right of being rewarded. Of course the "justice" of a punishment or of a reward involves something more than this. What is, strictly speaking, "just" is always the discharge of a duty corresponding to a right which had been in a partial manner disregarded by a transgression of the duty.[1] If justice demands that a man should be punished, his not being punished is an injustice towards all those whose condemnation of the wrong act finds its recognised expression in the punishment, inasmuch as their right of resisting wrong is thereby violated in favour of the wrong-doer. In cases where the claims of justice are not strictly defined, the comparatively lenient treatment of a criminal, though not being unjust *per se*, involves a special injustice towards other criminals, whose guilt was the same but whose punishment was more severe. Retributive justice admits of a certain latitude as to the retribution. It may be a matter of small concern from the point of view of justice whether men are fined or imprisoned for a certain crime. But it is a just claim that, under equal circumstances, all of them should be punished with the same severity, since the crime has equally affected their rights.

The notion of "justice," thus implying a kind of rightness, obviously derives its origin from moral indignation. This is not contradicted by the fact that men are frequently applauded for being just. Considering how difficult it is to be perfectly impartial and to give every man his due, especially when one's own interests are concerned, such a praise is only natural. But the notion of "justice" itself involves no praise, and what is "only just" is in no way meritorious.

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[1] The relation between "just" and "unjust" is the same as that between "right" and "wrong". An act is "just," in the strict sense of the word, if its omission is "unjust". At the same time, non-obligatory acts that are "not unjust" can hardly be denied to be "just," in a vague sense, although they are not demanded by justice.

From the predicates springing from moral indignation and involving, or referring to, censure, we pass to those that spring from moral approval and involve praise. Foremost among these ranks the predicate *good*.

Though "good," being affixed to a great variety of objects, takes different shades of meaning in different cases, there is one characteristic common to everything called "good". This is hardly, as Mr. Spencer maintains,[1] its quality of being well adapted to a given purpose. It is true that the good knife is one which will cut, the good gun one which carries far and true. But I fail to see that "good" in a moral sense involves any idea of an adaptation to a given purpose, and, by calling conduct "good," we certainly do not mean that it "conduces to life in each and all". "Good" simply expresses approval or praise of something on account of some quality which it possesses. A house is praised as "good" because it fulfils the end desired, a wine because it has an agreeable taste, a man on account of his moral worth. "Good," as a moral epithet, involves a praise which is the outward expression of the emotion of moral approval, and is affixed to an object of moral valuation on account of its tendency to call forth such an emotion.

"Good" has commonly been identified with "right," but such an identification is incorrect. It is right that a father supports his young children, inasmuch as he, by supporting them, discharges a duty incumbent upon him, but we do not call him good for doing it. Nor do we style a man good because he does not kill or rob his neighbours, although his conduct is so far right. The antithesis between right and wrong is contradictory, the antithesis between good and bad is only contrary. Every act, falling within the sphere of moral valuation, that is not wrong is right, but every act that is not bad is not necessarily good. Just as we may say of a thing that it is "not bad," and yet refuse to call it "good," so we may refuse calling "good" the simple discharge of a duty, although the opposite conduct were bad.

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[1] Spencer, *The Data of Ethics*, p. 21 *sq.*

On the other hand, it involves no confusion of ethical conceptions to attribute "goodness" to the performance of a duty, or, in other words, to praise a man for an act for the omission of which he would have incurred blame. To say of one and the same act that it is right and that it is good, really means that we look upon it from different points of view. Since moral praise expresses a benevolent attitude of mind, it is commendable and even obligatory for a man not to be too niggard in his acknowledgment of other people's right conduct, whereas, as self-praise is objectionable, only the other point of view is deemed proper when he passes a judgment upon himself. He may say, without incurring censure, "I have done my duty," but hardly, "I have done a good deed," and it would be particularly obnoxious to say, "I am a good man". The best man even refuses to be called good by others—"Why callest thou me good? there is none good but one, that is God".

Whilst "goodness" is the general expression for moral praise, *virtue* denotes a disposition of mind which is characterised by some special kind of goodness. He who is habitually temperate possesses the virtue of temperance, he who is habitually just the virtue of justice. And even when a man is simply said to be "virtuous," this epithet is given to him, more or less distinctly, with reference to some branch of goodness which constitutes his virtue. A Supreme Being, to whom is attributed perfect goodness, is not called virtuous but good.

It was the opinion of Aristotle that virtue is imperfect so long as the agent cannot do the virtuous action without a conflict of impulses. Others maintain, on the contrary, that virtue essentially expresses effort, resistance, and conquest. It has been represented as "mediation through pain";[1] according to Kant, it is "the moral disposition in struggle". For my own part I cannot admit that virtue presupposes struggle, nor that it is lessened by being exercised with little or no effort. A virtue consists in the disposition to will or not to will acts of a certain kind, and is by no means reduced by the fact that no rival impulses make themselves felt. It is true that by struggle and conquest a man may display more virtue, *viz.*, the virtue of self-restraint in addition to the virtue gained by it. The vigorous and successful contest against temptation constitutes a virtue by itself. Thus the quality of mind which is exhibited in a habitual and victorious effort to conquer strong sexual passions is a virtue distinguishable from that of chastity. But even this virtue of resisting seductive impulses is not greater, *ceteris paribus*, in proportion as the victory is more difficult. Take two men with equally strong passions and equally exposed to temptations, who earnestly endeavour to lead a chaste life. He who succeeds with less struggle, thanks to his greater power of will, is surely inferior neither in chastity, nor in self-restraint. Suppose, again, that the two men were exposed to different degrees of temptations. He who overcomes the greater temptations displays more self-restraint—although the other man may possess this virtue in an equal degree—but his chastity is certainly not made greater thereby. He may have more merit, but merit is not necessarily proportionate to virtue.

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[1] Laurie, *Ethica*, p. 253 *sqq*

In order to form a just opinion of a man's moral worth we must take into account the strength of his instinctive desires and the motives of his conduct. There are virtues that pay no regard to this. A sober man who has no taste for intoxicants possesses the virtue of sobriety in no less degree than a man whose sobriety is the result of a difficult conquest over a strong desire. He who is brave with a view of being applauded is not inferior in courage to him who faces dangers merely from a feeling of duty. The only thing that the possession of a virtue presupposes is that it should have been tried and tested. We cannot say that a people unacquainted with intoxicants possesses the virtue of sobriety, and that a man who never had anything to spend distinguishes himself for frugality. For to attribute a virtue to somebody is always to bestow upon him some degree of praise, and it is no praise, only irony, to say of a man that he "makes a virtue of necessity".

This fact that a man's virtues are no exact gauge of his moral worth is due to the stereotyped character of the virtues. They are broad generalisations of mental dispositions which, on the whole, are regarded as laudable. In individual cases, on the other hand, the possession of a virtue may confer no merit upon the possessor.

In illustration of the somewhat vague moral nature of the virtues may also be adduced the fact that among virtues have been ranked mental qualities which have little or nothing to do with morality, or which have a moral value only on certain conditions. The Aristotelian division of the virtues into intellectual and moral, and Hume's obliteration of the line between moral excellencies and mere gifts and talents, have now-a-days hardly any adherents. But in the popular catalogue of the virtues there is still included a mental quality like courage, which derives all its morality from the end it serves. A brave brigand certainly possesses the virtue of courage. At the same time we refuse to call his brave conduct virtuous—which shows that the adjective "virtuous" is more discriminating than the substantive from which it is derived.

Attempts have been made to reconcile the Aristotelian and the Kantian views of the relation between virtue and effort by saying that virtue is the harmony won and merit is the winning of it.[1] This presupposes that the man to whom virtue is natural has had his fights. But, to be sure, it is not always so. Who could affirm that every temperate or charitable or just man has acquired the virtue only as a result of inward struggle? There are people to whom some virtues at least are natural from the beginning, and others who acquire them with a minimum of effort.

There has been much discussion about the relation between virtue and duty. It has been said that "they are co-extensive, the former describing conduct by the quality of the agent's mind, the latter by the nature of the act performed,"[2] or that virtue, in its proper sense, is "the quality of character that fits for the discharge of duty," and that it "only lives in the performance of duty".[3] At the same time it is admitted that "the distinctive mark of virtue seems to lie in what is beyond duty," and that "though every virtue is a duty, and every duty a virtue, there are certain actions to which it is more natural to apply the term virtuous".[4] Prof. Sidgwick, again, in his elaborate chapter on "Virtue and Duty," remarks that he has "thought it best to employ the terms so that virtuous conduct may include the performance of duty as well as whatever good actions may be commonly thought to go beyond duty; though recognising that Virtue in its ordinary use is most conspicuously manifested in the latter".[5]

It can be no matter of surprise that those who regard the notion of "duty" as unanalysable, or who fail to recognise its true import, are embarrassed by its relation to virtue. We do not call it a virtue if a man habitually abstains from killing or robbing, or pays his debts, or performs a great number of other duties. We do call chastity and temperance and justice virtues, although we regard it as obligatory on a man to be chaste, temperate, just. We also call hospitality, generosity and charity virtues in cases where they go beyond the strict limits of duty. "The relation of virtue and duty is complicated," says Prof. Alexander.[1] "In its common use each term seems to include something excluded from the other," observes Prof. Sidgwick.[2] But, indeed, the relation is not complicated, for there is no other intrinsic relation between them than their common antagonism to "wrong". That something is a duty implies that its non-performance tends to evoke moral indignation, that it is a virtue implies that it tends to evoke moral approval. That the virtues actually cover a comparatively large field of the province of duty is simply owing to their being dispositions of mind. We may praise the habits of justice and gratitude even though we find nothing praiseworthy in an isolated just or grateful act.

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[1] Dewey, *The Study of Ethics*, p. 133 *sq.*; Simmel, *Einleitung in die Moralwissenschaft*, vol. i., p. 228; *cf.* also Shaftesbury, *An Inquiry concerning Virtue and Merit*, bk. i., pt. ii., § 4.

[2] Alexander, *loc. cit.* p. 244.

[3] Muirhead, *The Elements of Ethics*, p. 190, note *.

[4] Alexander, *loc. cit.*, p. 243 *sq.*

[5] Sidgwick, *loc. cit.*, p. 221 *sq.*

There has been no less confusion with regard to the relation between duty and *merit*. Like the notions of "good" and "virtue," the "meritorious" derives its origin from the emotion of moral approval, but while the former merely express a tendency to give rise to such an emotion, "meritorious" involves that the object to which it refers merits praise, that it has a just claim to praise, or, in other words, that it ought to be recognised as good. This makes the term "meritorious" more emphatic than the term "good," but at the same time it narrows its province in a peculiar way. Just as the expression that something ought to be done implies the idea of its not being done, so the word "meritorious" suggests the idea of a goodness which is not duly recognised. And as it is meaningless to speak of duty in a case where the opposite mode of conduct is entirely out of question, so it would be an absurdity to attribute merit to somebody for an act the goodness of which is universally admitted. Thus "meritorious" involves a restriction. It would be almost blasphemous to call the acts of a God conceived to be infinitely good meritorious, since it would suggest a limitation of his goodness.

The emphatic claim to praiseworthiness made by the "meritorious" has rendered it objectionable to a great number of moralists. It has been identified with the super-obligatory — a conception which is to many an abomination. From what has been said above, however, it is manifest that they are not identical. As the discharge of a duty may be regarded as a good act, so it may also be regarded as deserving praise. The apparent antagonism between duty and merit arises from the fact that no merit is conferred upon him who performs a duty which is seldom transgressed, or the transgression of which would actually incur censure or punishment, and also that many or most acts deemed to be meritorious really fall outside the limits of duty as roughly drawn by the popular mind. We praise and regard as praiseworthy only what is above the average,[1] we censure chiefly what is below it. We are disposed to attribute merit to a man not only on account of the intrinsic character of his conduct, but at the same time because it is comparatively unusual; and to confer greater merit upon him who, *ceteris paribus*, has overcome unusually great difficulties by resisting temptations from without or by subduing some strong desire. On the other hand, we do not think that a man ought to be praised for what his own interest prompts him to perform. And since the transgression of a moral command which is usually obeyed is generally censured or punished, there is under ordinary circumstances nothing meritorious in performing a duty.

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[1] Alexander, *loc. cit.*, p. 244.

[2] Sidgwick, *loc. cit.*, p. 219.

I confess that I fail to grasp what those writers really mean who identify the "meritorious" with the "super-obligatory" and at the same time deny the existence of any super-obligatory. Do they shut their eyes to the important psychical fact indicated by the term "merit," or do they look upon it as a chimera inconsistent with a sufficiently enlightened moral consciousness? For my own part I cannot see how the moral consciousness could dispense with the idea that there are actions which deserve moral praise.[2] The denial of merit can be defended from a purely theological point of view, and then only with regard to man's relation to God. It is obvious that a fallen being who is sinning even when doing his best, could not be recognised as good by God and could have no merit. But it is hardly just, nor is it practically possible, that a man should measure his fellow-creatures by a superhuman standard of perfection, and to try to suppress the natural emotion of moral approval by persuading himself that there is no mortal being who deserves it.

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[1] Merit, as Prof. Alexander puts it (*loc. cit.*, p. 196), "expresses the interval which separates the meritorious from the average".

[2] Prof. Bain, who takes a very legal view of the moral consciousness, maintains that "positive good deeds and self-sacrifice . . . transcend the region of morality proper, and occupy a sphere of their own" (*The Emotions and the Will*, p. 292). I believe that his restriction of the moral consciousness within so narrow limits is unique among modern writers, and it is certainly not to be recommended.

Quite distinct from the question of merit, then, is that of the *super-obligatory*. Can a man do more than his duty, or, in other words, is there anything good which is not at the same time a duty? The answer depends on the contents given to the commandments of duty, hence it may vary without affecting the notion of duty itself. If we consider that there is an obligation on every man to promote the general happiness to the very utmost of his ability, we must also maintain that nobody can ever do anything good beyond his duty. The same is the case if we regard "self-realisation," or a "normal" exercise of his natural functions as a man's fundamental duty. In all these cases "to aim at acting beyond obligation," as Price puts it,[1] is "the same with aiming at acting contrary to obligation, and doing more than is fit to be done, the same with doing wrong". It can hardly be denied, however, that those who hold similar views have actually two standards of duty, one by which they measure man and his doings in the abstract, with reference to a certain ideal of life which they please to identify with duty, and another by which they are guided in their practical moral judgments upon their own and their neighbours' conduct. The conscientious man is apt to judge himself more severely than he judges others, partly because he knows his own case better than theirs,[2] and partly because he is naturally afraid of being intolerant and unjust. He may indeed be unwilling to admit that he ever can do more than his duty, seeing how difficult it is even to do what he ought to do, and impressed, as he would be, with the feeling of his own shortcomings. Yet I do not see how he could conscientiously deny that he has omitted to do many praiseworthy or heroic deeds without holding himself blamable for such omissions.

Prof. Sidgwick observes that we can hardly deny that it is, in some sense, a man's strict duty to do whatever action he judges most excellent, so far as it is in his power.[3] This, as it seems to me, is not a matter of course, and nothing of the kind is involved in the notion of duty itself. We must not confound the moral law with the moral ideal. Duty is the minimum of morality, the supreme moral ideal of the best man is the maximum of it. Those who sum up the whole of morality in the word "ought" identify the minimum and the maximum, but I fail to see that morality is better for this. Rather it is worse. The recognition of a "super-obligatory" does not lower the moral ideal; on the contrary it raises it, or at any rate it makes it more possible to vindicate the moral law and to administer it justly. It is now-a-days a recognised principle in legislation that a law loses part of its importance if it cannot be strictly enforced. If the realisation of the highest moral ideal is commanded by a moral law, such a law will always remain a dead letter, and morality will gain nothing. Far above the anxious effort to fulfil the commandments of duty stands the free and lofty aspiration to live up to an ideal, which, unattainable as it may be, threatens neither with blame nor remorse him who fails to reach its summits. Does not experience show that those whose thoughts are constantly occupied with the prescriptions of duty are apt to become hard and intolerant?

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[1] Price, *A Review of the Principal Questions in Morals* (1787), p. 204 *sq.*

[2] *Cf.* Sidgwick, *loc. cit.*, p. 221.

[3] *Ibid.*, p. 219 *sq.*

Those who deny the existence of anything morally "praiseworthy" which is not a duty, are also generally liable to deny the existence of anything morally *indifferent* in the conduct of responsible beings. The "super-obligatory" and the "indifferent" have this in common that they are "ultra-

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[1] The bad reputation which the "super-obligatory" has obtained among moralists seems partly due to the wrong use made of it in the doctrine of *opera supererogativa*. This doctrine, the substance of which is not co-extensive with the Roman Catholic Church—in a more or less developed form it is found in Judaism (Montefiore, *Religion of the Ancient Hebrews*, p. 527 *sq.*), Muhammedanism (*Korân*, sura xi., v. 16; Sell, *The Faith of Islam*, p. 220 *sq.*), Brahmanism (Wheeler, *History of India*, vol. ii., p. 475), degenerated Buddhism (*The Indo-Chinese Gleaner*, vol. iii., pp. 150, 161, 164)—is based on the ideas that by a good or meritorious deed a man has done more than his duty; that a good deed stands in the same relation to a bad deed as a claim to a debt; that the claim is made on the same person to whom the debt is due, *viz.*, God, even though it be only by his mercy; and that the debt consequently may be compensated by the claim in the same way as the payment of a certain sum may compensate for a loss inflicted. This doctrine is particularly objectionable to the moral consciousness for this reason, that it, directly or indirectly, attaches badness or goodness to external acts rather than to mental states. Reparation implies compensation for a loss. The loss may be compensated by the bestowal of a corresponding advantage, but no reparation can be given for badness. Badness can only be forgiven, and moral forgiveness can be granted only on condition that the agent's mind has undergone a radical alteration for the better. It is true that this last point was not overlooked by the Catholic moralists, but even the most ardent apology cannot explain away the idea of reparation in the Catholic doctrine of the justification of man (*cf.* Manzoni, *Osservazioni sulla Morale Cattolica* (1887), p. 100). Penance consists of contrition, confession, and satisfaction, and contrition itself is chiefly "a willingness to compensate" (*The Catechism of the Council of Trent*, pt. ii., ch. v., qu. xxii).

obligatory," and the denial of the one as well as of the other is an expression of the same tendency to look upon the moral law as the sole fact of the moral consciousness. Even Utilitarianism cannot consistently admit of anything indifferent within the province of moral valuation, since two opposite modes of conduct can hardly produce exactly the same sum of happiness. Since this repudiation of the "indifferent" is quite contrary to the morality of common sense, which no ethical theory can afford to neglect, considerable ingenuity has been wasted on vain attempts to show that the "indifferent" is nothing but a rude popular conception unable to keep its ground against a thoroughgoing examination. Prof. Ziegler ironically asks,[1] "Such outward matters as eating and drinking are surely morally indifferent. And yet—is eating and drinking too much, is spending too much time in outdoor exercise, is lounging idly about, morally indifferent? Or, on the other hand, is it morally allowable or wholesome to reduce one's self and make one's self weak and ill by fasting, or to become a hypochondriac by continually staying indoors?" This way of reasoning implies a confusion of quite different volitions. To admit that eating or drinking on a certain occasion are matters of indifference, surely does not involve that eating and drinking generally, or eating or drinking too much are matters of indifference. Mr. Bradley observes,[2] "It is right and a duty that the sphere of indifferent detail should exist. It is a duty that I should develop my nature by private choice therein. Therefore, *because* that is a duty, it is a duty *not* to make a duty of every detail; and thus in every detail I have done my duty." This statement also involves a curious confusion of entirely different actions. It may be very true that it is a duty to recognise certain actions as indifferent. This is one thing by itself. But it is quite another thing to perform these actions.

It has been maintained that the sphere of the indifferent forms the totality of "ought," that when the same end may be reached by a variety of means, an action may be indifferent merely in relation to the choice of means, but not so far as regards the attainment of the end, hence only apparently indifferent.[3] "If it is my moral duty to go from one town to another," says Mr. Bradley, "and there are two roads which are equally good, it is indifferent to the proposed moral duty *which* road I take; it is not indifferent *that* I do take one or the other; and whichever road I do take, I am doing my duty on it, and hence it is far from indifferent: my walking on road A is a matter of duty in reference to the end, though not a matter of duty if you consider it against walking on road B; and so with B--but I can escape the sphere of duty neither on A nor on B." All this is true, but forms no argument against the "indifferent". The statement, "You ought to go to the town and to take either road A or B," refers to two volitions which are regarded as wrong, *viz.*, the volition not to go to the town at all, and the volition to take any road not A or B, and it refers also to two pairs of volitions in reference to which it indicates that the choice between the volitions constituting each pair is indifferent. You may choose to take road A or not to take it; you may choose to take road B or not to take it. The "indifferent" is always an alternative between contradictories. It can therefore never form part of an "ought"-totality, being itself a totality as complete as possible. This is somewhat disguised by a judgment which makes an obligation of a choice between A and B, but becomes conspicuous if we consider a simple case of indifference. Suppose that it is considered indifferent if you speak or do not speak on a certain occasion. What is here the "ought" that forms the totality of the indifferent? Would there be any sense in saying that you ought either to speak or not to speak? Or is the alternative, speaking—not-speaking, only a link in an indefinite chain of alternatives, each of which is by itself indifferent, in a relative sense, but the sum of which forms the "ought"? You may be permitted—it will perhaps be argued —in a given moment to speak or to abstain from speaking, to write or to abstain from writing, to read or to abstain from reading, and so on, but however wide the province of the permissible may be, there must always be a limit inside which you ought to remain. *That* you do this or that may be a matter of indifference, but only relative indifference, for it is not indifferent *what* you do on the whole, hence there is nothing absolutely indifferent. Such an argument, however, involves a misapprehension of the true meaning of the "indifferent". The predicate expressing indifference refers to certain definite volitions and their contradictories, not to the whole of a man's conduct in a certain moment. The whole of a man's conduct is never indifferent. But neither is the whole of a man's conduct ever wrong. In the moment when the murderer kills his victim he is fulfilling an endless number of duties: he abstains from stealing, lying, committing adultery, suicide, and so on. The predicate "wrong" only marks the moral character of a special mode of conduct. Why should not the indifferent be allowed to do the same?

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[1] Ziegler, *loc. cit.*, p. 85.

[2] Bradley, *Ethical Studies*, p. 195, note [1].

[3] Simmel, *loc. cit.*, vol. i., p. 35 *sqq.*; Alexander, *loc. cit.*, p. 50 *sqq.*; Murray, *loc. cit.*, p. 26 *sqq.*; Bradley, *loc. cit.*, p. 195 *sq.*

It has, finally, been observed that the so-called "indifferent" is something "the morality of which can only be individually determined".[1] This remark calls attention to the fact that no mode of conduct can be regarded as indifferent without a careful consideration of individual circumstances, and that much that is apparently indifferent is not really so. This, however, does not involve an abolition of the indifferent. Such an abolition would be the extreme of moral intolerance. He who tried to put it into practice would be the most insupportable of beings, and to himself life would be unbearable. Fortunately, such a man has never existed. The attempts to make every action, even the most trivial, of responsible beings a matter of moral concern, are only theoretical fancies without practical bearing, a hollow and flattering tribute to the idol of Duty.

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[1] Martensen, *Christian Ethics*, p. 415.

III.—PROF. MÜNSTERBERG AS CRITIC OF CATEGORIES.

By R. B. Haldane.

From the fountain head of Platonism there flowed a stream which became a great river—the philosophy of Aristotle. From the fountain head of Kantianism there flowed two streams. The one of them which soonest attained great volume was the Hegelian philosophy. But the second became likewise a current of great power. The meaning of the teaching of Schopenhauer has been appreciated out of Germany only in recent years. But it is not yet diminishing either in volume or intensity.

Of the Hegelian philosophy even those who owe most to it have been of late years ready to recognise that there is a sense in which its work requires to be done all over again. Its original language was uncouth and abstract. Everything seems to be there for him who has learned where and how to look. But the business of learning is a long and weary one, longer and wearier than it need have been. Nothing is less surprising than the reaction against Hegelianism which has arisen in an age in which every one is more or less in a hurry, and hates to be thought by his neighbours to be unpractical. It is, accordingly, not to be wondered at that the attempt had been made to rethink and rewrite much of what Hegel taught. Mr. T. H. Green and Mr. F. H. Bradley may be taken as men who have done this, each in his own way. Hegel refused to have anything to do with Kant's attempt to break up the entirety of knowledge into parts. Kant was for him too much under the domination of the methods of psychology to be a safe guide to the nature of the ultimately real, that into which all else can be analysed, while it cannot itself be expressed in terms of anything beyond. For Hegel there could be no separation of form from matter in experience, or of what was perceived from the act of perception itself. This act was for him one and indivisible, and so was its product. There could be no division, such as with Kant, into elements contributed by sense, by understanding, and by reason. Experience was not to be broken up. For the methods of science, including psychology, it was final reality. It could only be resolved further if it could be looked at as the outcome of the logical activity of an absolutely final subject, which was the condition of its possibility, and never itself capable of presentation as object within experience.

It was an easy step from this to treat the sciences as the modes in which were presented, not the rich concrete reality of experience itself, but mere aspects of that reality, isolated and made definite by the investigator confining himself to selected conceptions or categories in the attempt to get a clear and definite grasp of these aspects. There are no such experiences in the concrete real world as a straight line, or a limit, or a cause distinct from its effect, or a physical atom, or a whole which determines and in their metabolism conserves its parts. Yet, if we are to get clear and distinct knowledge of special kinds, we must abstract from other aspects, and view experience as though it could be reduced to these. If, going further, we confound the abstractions so obtained with independently existing realities, we shall get into trouble. If we forget that the conceptions or categories with which we have to work, are only of limited application, and, for example, insist on regarding the development and self-conservation of the embryo as an effect brought about by an outside cause, to be expressed in terms of quantity, or talk of the ultimate subject as of a magnified and non-natural man, we shall fall into contradictions. So at least the Hegelians tell us, and so they explain the apparent contradictions which have arisen between science and religion, the outcome for them of a confusion of categories and standpoints.

Hegel and his school did their work on the footing that the final reality was not substance but subject. The other school of *post*-Kantian thinkers presently subjected this doctrine to scrutiny. What, they asked, do we mean when we speak of an absolute subject in intelligence? We know what are the forms of intelligence which psychology and formal logic describe. But these are taken from the field of the object, and cannot be what we are in search of. Yet of intelligence, excepting as object in knowledge, we have no direct knowledge. We have, therefore, no business, so they argued, to talk of an absolute subject as though the phrase were one to which we could attach meaning. But, they go on, although the process of resolving the object world of experience into existence *for* what as such is not and cannot be object does not bring us to anything which we can, attaching a definite meaning to the words, call absolute intelligence, it does bring us to something of which we appear to have direct and simple consciousness as final and irresoluble. This is the act of volition, an act not known as psychological object, as a process of this or that individual, but as a final reality for which all else is, 'the bearer of all science and thought'. For those who hold that it is in the consciousness of practical rather than theoretical activity that we must look for the real meaning of reality, the term existence imports to be object or end for the will, just as for the Hegelian it signifies to be object for intelligence. It is, therefore, to mistake what is but of a secondary nature, the outcome of abstraction, for final reality, to speak of either will or intelligence as existing. They indicate, do such names, not anything in the object world, but what makes the object world possible. In his recent volume of essays on *Psychology and Life*, Prof. Münsterberg puts very clearly the point of view of one who finds in what he calls will rather than intelligence ultimate reality. It is worth while to quote on this point a few sentences from his book:—

"We have asked the question whether the psychical objects or the physical objects, or both, represent the last reality; we say that dualistic realism and materialism decided for the last two interpretations, while psychology voted for the first. It seems that one of these three decisions must be correct, and here is the great misunderstanding. No, all three are equally wrong and worthless; a fourth alone is right, which says that neither the physical objects nor the psychical objects represent reality, but both are ideal constructions of the subject, both deduced from the reality which is no physical object, no psychical object, and even no existing object at all, as the very conception of an existing object means a transformation of the reality. Such transformation has its purpose for our thoughts, and is logically valuable, and therefore it represents scientific truth; but this truth nevertheless does not reach the reality of the untransformed life" (p. 19). He goes on a little later to explain that reality in the final meaning of the word signifies something quite different from existence: "Existence of an object means that it is an object of mere passive perception; in real life there is no passive perception but only active appreciation, and to think anything as object of perception only means a transmutation by which reality evaporates. Whatever is thought of as existing cannot have a reality. Our real will does not exist, either as a substance which lasts, or as a process which is going on ; but our will is valid, and has a form of reality which cannot be described, because it is the last foothold of all description and agreement. Whoever has not known himself as willing cannot learn by description what kind of reality is given to us in that act of life ; but whoever has willed knows that the act means something more than the fact that some object of passive perception was in consciousness ; in short, he knows a reality which means more than existence" (p. 24). "In emphasising thus the will as the bearer of all science and thought, we have reached the point from which we can see the full relations between life and psychology. In the real life we are willing subjects, whose reality is given in our will attitudes, in our liking and disliking, loving and hating, affirming and denying, agreeing and fighting ; and as these attitudes overlap and bind one another, this willing personality has unity. We know ourselves by feeling ourselves as those willing subjects ; we do not perceive that will in ourselves ; we will it" (p. 23). "The least creature of all mortals, acknowledged as a willing subject, has more dignity and value than even an almighty God, if he is thought of merely as a gigantic psychological mechanism ; that is as an object the reality of which has the form of existence" (p. 28).

These citations from the chapter in which Prof. Münsterberg defines his general position will serve to show how completely he has identified himself with the second of the two great *post*-Kantian schools of thought. If we were to pause in order to ask him why he called his ultimately real subject, *for* which existence is, will instead of mind, he would probably reply by asking why it should be called mind instead of will. The truth seems to be that there is not the great gulf between the two schools that is commonly supposed. For both to exist as object for the subject is to exist only in a secondary sense, as dependent on and the outcome of an activity that lies beyond experience and is determinable only as what makes experience possible. Whether we call this activity mind, or whether we call it will, we mean that it is what cannot be presented as object of perception. The disciple of Hegel thinks that thought can apprehend its own nature, can disentangle from objectivity the logical process of which objectivity is but an aspect or pole. He tells us that it is only by going into the water that we can learn to swim. The disciple of Schopenhauer, and as such it seems right to rank Prof. Münsterberg, tells us that we are directly aware of the fact that we will, although this fact is not and cannot be one belonging to the object world, and is what he calls 'over-individual'. The important thing in Prof. Münsterberg's volume is not, however, the statement of his general standpoint, for this is not novel, but that he is one of the first, if not the very first, to do what the Hegelians have already endeavoured to do from their point of view, to attempt a systematic criticism of categories from the point of view of will as the ultimate reality. This is substantially how he would reason: If will be that which makes possible and creates the object world of experience, then the special sciences, which can only do their work within the field of experience, must be regarded each as abstracting under special categories. That is to say each science, in order to get clear knowledge of a certain kind, applies its own general conceptions for the purpose of shutting out those aspects of existence which do not concern it, and so getting into clearer consciousness those relations which it desires to elaborate. Thus, if we wish to extend our knowledge of the quantitative aspects of the object world, and to begin with the triangle, we shall abstract from all relations of colour, etc., and concern ourselves with an object which concrete experience never does present to us, a figure made up of Euclidean straight lines, possessing neither breadth, depth, nor solidity. It is so that we get clear consciousness of geometrical relations. In like manner physical science figures the world by means of its peculiar points of abstraction, as though that world consisted of causes and effects, and that, although a self-subsisting cause or effect, is no more to be met with in nature than is a perfect straight line. The conception of a whole conserving itself through a definite course of development from its embryonic commencement to death, notwithstanding the complete change of its material, is just as incomprehensible from the standpoint of the categories of physics, as are the categories of the latter from the standpoint of pure quantity. Æsthetical and ethical relationships in like manner lie beyond what of concrete experience can be admitted through the categories of biology. In other words, the special sciences present us not with the spectacle of concrete and real existences, but with certain aspects of these existences, separated out by abstraction, and hypostatised to the exclusion of all else. This is a legitimate and necessary process, for faculties limited as are ours, if knowledge is to be extended and made definite, but it is destructive for the moment of all the relationships which it puts aside. For the moment only, because when we understand the relations to one another of these categories, there is and can be no contradiction between the results of the sciences. The physicist may reduce the universe to an ideal construction of atoms and energy. He in no way interferes with the results of the biologist, who gets existence, by abstracting from a different point of view, as containing self-conserving and developing wholes, whose control of these parts cannot be expressed in mathematical relations of quantity or physical relations of cause and effect. The puzzle of the freedom of the will in like manner ceases to be a puzzle when it is realised that the relation of volition and motive is even farther away from that of effect and cause than is the relation of response and stimulus.

With this view of the field of knowledge before his eyes, Prof. Münsterberg, in his volume of essays, proceeds to investigate the limits and validity of the methods of psychology in the various fields to which it has been applied. To begin with, the will as such, that which just because it makes experience possible can never itself be an object in experience, is not cognisable by psychological methods. Psychological procedure is one of the purposes of the will which seeks to arrange and group the concrete riches of the object world for its own ends, but it is after all an artificial process. "If psychology, like physics, deals with the objects of the world in their artificial separation from the will, how can the will itself be an object of psychology? The pre-supposition of the question is in some way wrong; the will is primarily not at all an object of psychology" (p. 30). He goes on to point out that the objects of psychology are abstractions, not realities, just like the lines and triangles and circles of geometry. The field of psychology is an ideal aspect of mental life as constructed out of "atomistic elements which the psychologists call sensations. The will is not a possible object; psychology must make a substitution therefore; it identifies the real personality with the psychophysical organism, and calls the will the set of conditions which psychologically and physiologically determine the actions of this organism." The real will, he tells us, is free, and it is its own work to have pictured the world, including itself, by means of the abstractions of the special sciences, as unfree or causally connected; and, "if it is the triumph of modern psychology to master even the best in man, the will, and to dissolve even the will into its atomistic sensations and their causal, unfree play, we are blind if we forget that this transformation and construction is itself the work of the will which dictates ends, and the finest herald of its freedom". The method of psychology is a most valuable method, but its value is limited to the particular end which it has in view, and to which its categories confine it. That end is to grasp the relationships of the complex of ideas of perception which make up the object world of inner life. Just as the physicist proceeds by conceiving *his* object world as resoluble into atoms, so the psychologist treats his as resoluble into sensations. Both points of view are abstract, and shut out other aspects of reality. But each is necessary as the instrument by which alone clear knowledge is to be attained.

So much for the relation of psychology to the facts of mental life. In the next chapter Prof. Münsterberg examines the relationship of psychology to physiology. He begins by stating that while external phenomena can be directly apprehended by a plurality of persons, the phenomena of internal life are confined to the consciousness of the person to whom they belong, and can come into no other consciousness. All description for the purpose of communication is therefore in terms of some external phenomenon which is connected in our own experience with the internal one which it is sought to describe, and may suggest a similar connexion in the experience of another person. In fact, that there is an external phenomenon corresponding to every internal experience, must be the postulate of every attempt at a science of psychology. But this is not all. Causal connexion properly so-called is an affair of the external world, where every change not only has its cause but is quantitatively equivalent to that cause. From the nature and quantity of the effect we can determine, therefore, not only the nature but the quantity of the cause. Now, in the world of inner sense, this is not so. The sensation which succeeds is not the sensation which has gone before in another form. The latter had perished wholly before the former came into existence. Thus we are shut out, not only from a causal view of sensations, but from a quantitative view. We can supply the double deficiency only by turning to the physical processes which accompany sensation, and this is why, from the point of view of science, they are of such immense importance. They represent, it is true, only another aspect of the whole, but the new aspect is one in which we reach quantities and causes, the two conceptions most fruitful for the purposes of scientific knowledge. The demand made on psychology is "to give causal explanations; it can do so only if it replaces the psychical objects by constructions which are themselves conceived in analogy with physical objects". Here the psychophysical standpoint is of much value.

Whether by what is physical we mean, as Prof. Münsterberg thinks, what is "a possible object for every subject," as distinguished from the psychical occurrence which is possible object for "one subject only," is a question to which every one might not give the answer that Prof. Münsterberg gives. Is there any such division of the two kinds of experience? It is true that the contents of my consciousness cannot be directly apprehended by any one else, but this truth is apparently not confined to the impressions of what is called inner sense. My visual impression of a locked gate is just as much within my own consciousness as is my impression of annoyance at the prospective trouble of having to climb over it. The real medium of communication does not appear to be reduction to a common external experience—for no experience of mine whether external or internal, can really be shared by any other—but reduction to symbols which indicate general relations that intelligence can grasp and express. If I describe the gate as white, and of a certain height and in a certain wall, others will be able to classify their experience as, not identical with, but similar to mine. It is here that the categories and relations of quantity, and the symbols of language which represent them, become of immense value; and it is probably in the main through these that we construct that most rooted fiction of common sense, the *façon de parler* of a common experience identical for a plurality of subjects. But this is not the place to follow out this problem, for even if we do not accept Prof. Münsterberg's version of the answer it does not affect the general drift of his reasoning.

Passing from physiology to education and art, which form the topics of the next two chapters, the author attacks those who think that the abstract methods of psychology can throw much light on subject matter cognisable only under wholly different categories. It would occupy too much space to quote the passages, beginning at p. 128, in which Prof. Münsterberg pours scorn on the notion that the teacher ought to be a psychologist. Child psychology may be and often is useful in other sciences, never in the science of teaching as such. "Certainly the teacher ought to study children and men in general, but with the strictly anti-psychological point of view; he ought to acknowledge them as indissoluble unities, as centres of free will, the functions of which are not causally but teleologically connected by interests and ideals, not by psychophysical laws. The study of the mental life of man from this other point of view is not a special science; it belongs partly to history and literature, partly to logic and ethics and philosophy, partly to poetry and religion. Here may the teacher wander at his ease, and he will learn to understand man, while psychology teaches him only to decompose man. Have you never observed what bad judges of men in real life the psychologists are, and what excellent judges of men the history-makers and historians are?"

Let us turn to the chapter on the relationship between psychology and art. The author is here more hopeful of the uses of his science than he was in the case of education. He holds that psychology has, since the time of Fechner, made real progress in determining the uniformities of æsthetic preferences. He thinks that artistic prescriptions, worthy to be taught, have been and will still more be devised in the psychophysical laboratory. Blue and red are agreeable, blue and green are disagreeable: therefore combine red and blue, but not red and green. The golden section of a line is the most agreeable of all divisions: therefore try to divide all lines, where possible, according to this rule. But useful as this is, it is only an abstract and special point of view. It can take no cognisance of "the world of will-relations wherein grows and flowers art". Real art makes us forget that the painting is only colours spread over a piece of canvas, and that the character of Hamlet is only the production of an actor. Art is rather the acknowledgment of the will of the artist. The rules and prescriptions of psychology are valid and useful. But they do for real beauty and art just what the police and the prisons do for morality and conduct. They neither take their places nor adequately express them.

The conceptions under which history abstracts form the subject of the next chapter. The historian has aims which are directly antagonistic to those of the poet, for "the poet isolates, while the historian, like every scientist, connects his material". But the materials themselves, the subjective acts, are common to the historian and the poet. Where the psychologist "encourages the reader to take the attitude of the objectively perceiving observer, the poet and the historian speak of facts which can be understood only by interpretation and inner imitation; they cannot be described by enumerating their elements; they must be suggested and reach somehow the willing subject which enters into the subjective attitude of the other".

The final chapter deals with mysticism, and it is worth while to quote its final words. "We have the truth of life. Its *realities* are subjective acts, linked together by the categories of personality, giving us values and ideals, harmony and unity, and immortality. But we have, as one of the duties of life, the search for the truth of science, which transforms reality in order to construct an impersonal system, and gives us causal explanation and order. If we force the system of science upon the real life, claiming that our life is really a psychophysical phenomenon, we are under the illusion of psychologism. If, on the other hand, we force the views of the real life, the personal categories, upon the scientific psychophysical phenomena, we are under the illusion of mysticism. The result in both cases is the same. We lose the truth of life, and the truth of science. The real world loses its values, and the scientific world loses its order; they flow together in a new world controlled by inanity and trickery, unworthy of our scientific interests, and unfit for our ethical ideals." These sentences express the point of view of this part of the book. Under mysticism the writer classes all attempts at a supernatural interpretation of the phenomena of hypnotism, thought reading, and spiritualism. Many of the allegations of fact on which mysticism founds itself may be true. The vice of the thing is the attempt to impose "teleological categories upon the psychological facts; that is upon constructions which are formed for the purpose of the mechanical categories only". This theme Prof. Münsterberg works out at some length by the aid of illustrations. He has obviously devoted a good deal of attention to the investigation. For the claims of mysticism to have reached the supernatural he has nothing but contempt. The miserable results of so-called communications from another world disgust him. But he is quite prepared to find a place in science for many of the phenomena which have been brought to light by so-called psychical research. He is free from the prejudice that the ambit of the world of reality is coincident with the sphere of the categories of mechanism.

Read as a whole *Psychology and Life* is a very remarkable book. In it the writer attempts the criticism of categories—one of the most important and least understood duties of philosophy—from a new point of view. To those who have not followed the development of the second branch of *post*-Kantian inquiry, it will seem startling to find the will brought into such prominence, and to read of 'over-individual' action. But if, and it is open to question, this kind of language is one whit more obscure than the terminology of the corresponding school of Hegelian critics, it has the merit of emphasising a side of reality, the aspect of practical as distinguished from theoretical activity, which recedes from the Hegelian point of view. And then Prof. Münsterberg has done the work all over again in more senses than one. Not only has he used new terminology and sought—like Prof. Ward in his recent Gifford lectures, written with a purpose which is not dissimilar—to do without the use of words which are not significant merely because they are technical and uncouth, but he has brought to bear on the criticism of categories what it most of all needs at the present time, the special scientific knowledge without which no great progress in it can be made. That one of the foremost psychologists of our time should have examined the limits of his own methods in the calm and dispassionate spirit of this book is a good and rare thing gained. That he should have done it from a wholly fresh point of view, and have brought to the criticism of his categories such a grasp as he has shown of the methods which a great metaphysical system has provided for inquiry into the problem of ultimate reality is a still better and rarer thing.

So much for the very great service which the author of this book appears to me to have rendered. But at this point one is forced into criticism. The cardinal and most striking conclusion which he reaches is that the psychologist investigates, not the real will but a complicated and highly artificial substitution for it. He treats the will as though it consisted of a series of sensational elements, and this the psychologist, if he is a disciple of Prof. Münsterberg, does, knowing that the real will is not even capable of description in the language which he employs. "We are blind," says Prof. Münsterberg, "if we forget that this transformation and construction is itself the work of the will which dictates ends, and the finest herald of its freedom" (p. 32). If this be all, then surely we are, as Schopenhauer did not scruple to assert, the mere sport of what for us is and always must remain, blind and unintelligible. Prof. Münsterberg seems to feel this. For in other passages, *e.g.*, at page 22, and in the preface at page vii., he says that the transformation which psychology makes is worked out for "the ends of logical thinking" and for "special logical purposes in the service of our life". It is not easy to reconcile these statements. If the will be not the same thing as logical thinking, and it is plain that from the point of view of Prof. Münsterberg it cannot be, the old reproach, often before made against the school of Schopenhauer, rises to our lips. The facts of life are too strong to admit of this school being in earnest with its conclusions. If its disciples were consistent, what they call logical thinking would have been for ever deposed in their eyes. For we should recognise in it, as in all other phenomena of experience, no more than a transformed activity of the ultimate root and bearer of all phenomena—the will. The point of view of psychology could find no justification in its necessities. Pessimism and scepticism would mean the same thing in the end. But both Schopenhauer and Prof. Münsterberg refuse to attempt to learn to swim before going into the water. It is only by assuming the validity of reasoning processes as a guide to truth that they get to the will at all. Schopenhauer went even farther than Prof. Münsterberg does. For he explicitly takes refuge when confronting the practical aspects of life (*e.g.*, book 4 of the *World as Will and Idea*) in reason, with its denial of the will to live, as the deliverer from the bondage of the will, and therefore as its superior. All this seems to point, not to the taking of the mental processes disclosed in introspection as the final form of the real, or as more than an aspect of it, but to the looking to what has sometimes been called intelligence and sometimes subject, as the ultimate expression of the real. This may not carry us very far. It may land us miles short of the adoption of the Hegelian logic. But it does what Prof. Münsterberg and Schopenhauer cannot do for us, it enables us at least to attempt to give some rational explanation of the relationship to each other of the transformations which the special sciences have adopted, and some satisfactory grounds for them. It delivers us from scepticism with which we cannot be in earnest—cannot do more than play. It affords a basis for the criticism of categories which seems to be wholly lacking to the disciples of the other great *post*-Kantian school. Perhaps the time may come when the recoil from the abstractness of Hegelianism will have spent itself. People may come to think that although they have done right in rejecting its apparent reduction to a "bloodless bullet" of categories of the concrete riches of a universe in which personality and moral activity are cardinal facts, they have done wrong in rejecting its warning that to build on any other foundation than that of reason is to build on shifting sand. A yet fuller view than that of Hegel may leave us less dissatisfied than he has left us with reflexion as a guide to the nature of ultimate reality. But if in the end we pass by Schopenhauer we shall be none the less grateful to him for having recalled us from a shadow world of abstractions back to life. That we should come back is essential if philosophy is not to be divorced from what is most valuable in the practical sphere. If Prof. Münsterberg and the other distinguished German writers who, differing from him in details, are yet to-day working in the same direction, will continue to teach us this lesson, they may be sure that we shall not fail to listen.

IV.—VITALISM: A BRIEF HISTORICAL AND CRITICAL REVIEW (I.).[1]

CHARLES S. MYERS.

DESIRE to know the purport and causes of vital phenomena—life's why and how—is the invariable starting-point of those vast systems of speculation which from time immemorial the human mind has been framing in an unwearying endeavour to determine its relation to the external world. Of these systems it would at first sight appear that there are three distinct kinds—those of Theology, Metaphysic and Natural Science, and that each of them deals in its own fashion with the problems of nature. Indeed to many writers so different have seemed the methods severally employed and the teachings thereby deduced, that, taking for granted the unity of Truth, they have held that, while Theology, Metaphysic and Natural Science may all be wrong, not more than one of them can conceivably be right in the course pursued to effect a solution.

The Theologist regards the study of life as part of the study of soul. Present existence is for him a mere phase among such past or future states as are upheld in the doctrines of palingenesis, metempsychosis or resurrection. This standpoint, from its very nature forbidding criticism, contrasts with that of Metaphysic or of Natural Science, each of which is based upon independent judgment instead of upon authority. Among themselves Metaphysic and Natural Science have differed, in that the former has relied mainly upon reason, the latter mainly upon experience. "Perceive," says Natural Science, "conceive, then verify by further perception." From the extremes of metaphysic, beyond the reach of experiment, has rather come the retort: "Conceive and rest satisfied with conceptions". Carrying her distrust of the senses into the realms now held by Biology, Metaphysic has at times ventured to speculate on life's nature in the light of reason more or less purified from the dross of experience. She has endeavoured generally to solve the problem of the external world from the inner knowledge of the Ego. It is sufficiently correct to say that the progress of Natural Science—as witnessed, for example, in physiological psychology—depends on the pursuit of a diametrically opposite course.

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[1] An essay (here slightly modified and abbreviated) which obtained the award of the Arnold Gerstenberg Studentship, Cambridge, 1896-7.

History shows how often Theology, Metaphysic and Natural Science have in turn overstepped their boundaries, carrying a war of the fiercest controversy into the territories of their respective neighbours. While Theology necessarily remains to some extent isolated as the voice of Authority, in the relation between Metaphysic and Natural Science a new era seems clearly dawning. The once hard line of demarcation between the vaunted simplicity of scientific empiricism and the transcendentalism of metaphysical speculation is fast fading. The shallow one-sided views afforded by either, unaided by the other, are giving way before their far more suggestive combination in a picture of truly stereoscopic solidity. How Metaphysic has influenced Natural Science is well seen in the modern conceptions of potential energy, action at a distance, atoms and ether. How Natural Science has reacted on Metaphysic, the present position of Psychology sufficiently testifies. Hereafter it appears that the search after the nature of vital phenomena is yet another of the many paths wherein the interests of Metaphysic and of Natural Science intersect.

PART I.

A History of Vitalistic Theories.[1]

In ancient Greece lies the starting-point of the earliest philosophy from which the principles of Natural Science can be derived; where the conditions, alike of climate externally and internally of society, tended rapidly to develop the independent spirit of rational inquiry.[2] Eager to step beyond religion and to explain all external phenomena by the aid of reason, the early Greek set forth on his journey, equipped only with a Fetishism which under the cloak of Religion had lovingly been fastened on to him from infancy. With this, the one weapon of which he knew the use, he was quickly forced to fight in his spirited battle against the great Unknown. In turn he endowed water, fire and earth with the necessary life-creating principle or ἀρχή. When soon it became clear to him that principles like these could not exist, he appears to have treated elements as mere symbols of the principles. Abstraction thus started grew apace. Beside the Physical arose the Mathematical School, which, putting implicit faith in the truth of mathematical language, proclaimed numbers to be the principles of Things, Life and Soul to be the manifestations of Numbers, and Numbers to have actual existence.

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[1] By Mechanism is understood the description of the phenomena of life in terms of processes already revealed by the study of lifeless nature. When the aid of some hyper-mechanical process is invoked, Vitalism replaces Mechanism. Vitalism includes Animism and Vitalism proper: the former implying the direction of an anima or soul, the latter that of numerous hyper-mechanical forces or principles.

[2] Zeller (1) seems to have effectively opposed the contention of Roth and Gladisch that this early Grecian thought was in the main a product of Hebraic, Egyptian and other Oriental influences.

Heraclitus and Empedocles (fl. 475 B.C.) by their inquiry into knowledge itself, did much to hasten the establishment of more clearly stated speculations on the nature of life. From Heraclitus arose the atheistic or rather pantheistic conception of instability. Everything is in constant motion. He sets up a fate or εἱρμαρμένη as director of this perpetual flux, retaining, however, the everlasting fire (πῦρ ἀείζωον) to explain all vital phenomena. Αὐγὴ ξηρὰ, ψυχὴ σοφωτάτη, "the purer the fire, the more perfect the soul". "A drunken man has a moistened soul." Empedocles, so far as his doctrine of a rival love and hatred are concerned, makes a near approach to Dualism. Moreover, the assertion to him accredited, that living beings are created by the accidental union of neckless bodies, bodyless legs and similar monstrosities previously shaped by the mutual attraction and repulsion of the four elements, is one far ahead of his time.

Anaxagoras (500-428 B.C.) deserves mention not only for the originality of his views but as the master of Socrates who led to the foundation of the school of Attic philosophers. Water, fire and earth were to his mind the components of the primitive matter from which the body is formed. Confident that matter can never explain its own properties, Anaxagoras endowed it with a νοῦς, the most subtle of all things, having the most knowledge and the greatest strength.

Even in Hippocrates (460-377 B.C.) there is little enough from which one may deduce a definite theory on the nature of vital phenomena. When the most conflicting opinions prevail as to which of his books are and are not genuine,[1] it only remains to present the generally received notions of his views. In a well-known passage, Hippocrates ascribes the essence of life and the cause of all its phenomena to the ether, the subtle fire which has existed from all eternity and is present in air and all matter. This fire or ether, which seems identical with the pneuma elsewhere described, is immortal, knowing, seeing and hearing all. It knows the present, past and future; it arranges everything, working noiselessly, being neither tangible nor visible. The pneuma changes between the lungs and the blood, between the blood and the tissues: the brain communicates with it freely. Soul and life seem to be made up of this atmosphere, which diffused through nature is single in essence though manifold in qualities.

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[1] More than fifty pretended works have come down to posterity; of these nineteen are accepted by Mercuriali, and only five by Grimm. One commentator, stating that Hippocrates paid little or no attention to the

At length we come to him who was the first clearly to separate mind from body, who enlarged thereby the whole field of philosophic inquiries—Plato (427-344 B.C.). Because of the far-reaching influence which his cosmogony held over his own and on long subsequent physiology, a clear account of the Platonic philosophy would have great value. The task, however, is well-nigh impossible amid so much allegory, so marked a want of coherence, and such frequent contradictions as are found scattered throughout his works. Plato has been excused these obscurities on the ground that they in reality express the scepticism of the Socratic school to which he belonged. Whether this be so or not, the result has been that each age places a different interpretation on his works. The system of Plato is founded on the distinction between Being and Not-Being, and the universe is accordingly divided into a region of noumenal intelligible Ideas and a region of phenomenal sensible matter. Ideas alone have true Existence. Phenomena are considered as lying midway between that which has and that which has not Existence. At the opposite extreme of Being stands that "which is at once the groundwork and the receptacle of all Becoming, the common element which underlies all corporeal elements and all determinate matter". (2) Whether this groundwork of phenomena was conceived by Plato as a material substance has been disputed. But surely the admittedly unknowable nature of the Not-Being demonstrates its formlessness. Plato has often been credited with the separation of soul from life in contradistinction to Aristotle who, it has been said, maintained that they were one. Yet in the *Phædo*

causes of life, places the *De Natura Homin.* as late as Herophilus. Haller denies the Hippocratic source of the *De Significat. Vitæ et Motus.*

occurs the passage, "What causes the body to be alive?" and the reply is that it is the soul and always the soul that carries life with it wherever it enters. Soul is divided by Plato into Reason, Courage and Desire, respectively seated in the head, the breast, and the lower regions. He divides the soul into two mortal (noble and ignoble) parts and an immortal part, the dwelling-places of which in the body, like the bed-chambers of men and women within the house, are kept separate. Plato ascribes to the Soul immortality, transmigration, pre-existence and recollection (*ἀνάμνησις*). He bases its immortality on its survival from evil which kills all else. He is probably serious in adopting the Pythagorean theory of transmigration. The doctrine of recollection by the Soul of its former experiences forms a necessary support for the development of the Platonic conception of ideas (2).

In Plato's pupil, Aristotle (384-322 B.C.), is seen for the first time a dim possibility of the ultimate separation of metaphysical from scientific method. By his collection of diverse scattered physiological phenomena, he laid the foundation of a science whose scope and object were finally clearly recognised. Aristotle, after criticising Plato's system, seized on the difference between the potentiality of Matter and the Actuality of Form, and proclaimed that all substances have arisen from the combination of Matter (*τὸ ὑποκείμενον*) and Form (*τὸ τί ἦν εἶναι*). Life, says Aristotle, has substance, and the Form of Life is the Soul. Everything possessing a Soul is alive; the Soul is the principle of movement, without admitting in itself of movement. The hypothesis of the union of Soul with Body is discarded. In the System of Aristotle the latter serves merely as an end to the former. Mankind is distinguished by a *νοῦς*, a part of the Soul, unlike the other parts in its immutability and knowing neither birth nor death. The soul has its seat in the Pneuma (which is the cause of vital heat) and resides in the heart. The plant has but one Soul, the Constructive Soul; the animal has the additional Souls of Desire, Sensation and Locomotion. Finally in man is consummate the Soul of Reason.

The combined influence of Aristotle and Plato on the followers of the Hippocratic school led to a gradual development of the infant doctrine of the pneuma. Herophilus (fl. 300 B.C.) taught that the pneuma produces four kinds of movement, two of contraction and two of dilatation, and that correspondingly there are four powers (*δυνάμεις*) of animal life, nourishment in the liver, warmth in the heart, thought in the brain and sensation in the nerves. His contemporary, Erasistratus (fl. 250 B.C.), distinguished a *πνεῦμα ζωτικόν* in the heart from a *πνεῦμα ψυχικόν* in the brain, and, refuting the internal perfecting principle of Aristotle, denied the current Stoical belief in the rule of a wisdom of Providence over the body.

The school of the Pneumatics proper finds its ablest exponents in the persons of Athenæus, Aretæus and Archigenes. Athenæus of Attaleia (fl. 50 A.D.), adding to the two pneumata of Erasistratus a third, the *πνεῦμα φυσικόν*, maintained that disease resulted from certain changes in the pneumata. It is here unnecessary to refer to the clinical observations and teaching of Aretæus (fl. 150 A.D.), and Archigenes, close followers of Hippocrates. The pneumatic doctrine received its fullest development at the hands of Galen, beneath the shadow of whose authority it was destined to flourish for many centuries.

Claudius Galen (131 to about 200 A.D.) was the first in the history of Natural Science in whom an honest desire is found expressed to collect all phenomena into a mutually dependent system before the construction therefrom of philosophical speculation be attempted. Grasping the importance of anatomical research as a basis for the comprehension of physiological function, Galen undertook the dissection and (we are told) the vivisection of various animals. The extensive view of life thus acquired led to his celebrated elaboration of the pneumatic doctrine. Besides the *πνεῦμα ζωτικόν* and the *πνεῦμα ψυχικόν* of Erasistratus, Galen, like Athenæus, added a *πνεῦμα φυσικόν* which, resident in the liver, he endowed with the power (*δύναμις*) of nutrition, growth, secretion, reproduction, etc. Galen's conception of the circulation is worthy of mention. To his mind the venous blood, originating in the liver, travelled to the right side of the heart where a dual separation took place, the living portion proceeding to the left side of the heart, the dead portion being carried to the lungs, there to undergo a process of "refreshment" under the influence of the external pneuma. With the prophetic instinct of true genius, Galen suspected that the life-giving pneuma would some day be isolated from the air which held it. To Hippocrates all theorists have appealed, whether solidists, humorists, dynamists, animists or vitalists. All schools too have quoted Aristotle whose metaphysical or physiological studies were in turn adduced, according as a subjective or objective method of study was being advocated. But with the advent of Galen comes for the first time a theory that leaves no doubt as to its nature.

The mode in which Aristotle's teachings and discoveries became transmitted to posterity forms a curious page in the annals of the history of philosophy. His scientific researches appear to have been preserved and diffused mainly by the activity of the Arabian school, while his metaphysics, reaching these Western shores some centuries before Arabian studies had spread hither, were already—possibly because of their inherent theistic tendencies and denial of chance—warmly debated in, if not embraced by, the early Christian Church.

At an early date the Fathers of the Church found themselves confronted with the difficulties of several perplexing questions concerning the nature of life. Accepting the biblical tradition of the *ψυχή*, they began to inquire into the further details of its nature. To Aristotle they turned as a guide; and when they read the Stagirite's teaching that man had a constructive, a sensory, a rational and other souls, the question arose as to whether these were merely expressions (*δυνάμεις*) of a unitary soul or whether the biblical *ψυχή* must be subdivided into these distinct components. This problem was debated with vigour, but the majority appear to have accepted the conception of a single soul, Origen, the Manichæans and the Gnostics being most prominent among their opponents.

St. Gregory of Nyssa (fl. 370 A.D.) set up three degrees of life, dividing the *δύναμις ζωτική* or vital force into the life of nutrition devoid of sensation, the life of sensation which is also nutritive, and the life of reason which being perfect includes the life of nutrition and sensation.

The doctrine of the union of *νοῦς* and *ψυχή* found an able advocate in St. Basil (329-379 A.D.), who conceived intellect as something originally planted or sown (*ἐγκατεσπαρμένον*) by the Holy Trinity within the soul. He thus believed the Soul to have a twofold power, vital (*ζωτικόν*) and rational (*λογιστικόν*) (3).

St. Augustine of Hippo (354-430 A.D.), the great opponent of the Manichæan doctrine of the separate existence of good and evil souls, ranks as the ablest vindicator of the Aristotelian teaching concerning the nature of life. In the *De quantitate animæ*, however, he adds to the souls of vegetable, animal, and intellectual activity, four other souls which culminate in the vision of God and in pure love. His cosmogony, moreover, is to a certain extent evolutionary; for him, the *anima vivificans* stands at the lowest rung of the ladder of life.

Philosophy thus merged with Theology, was destined to regain at length her former liberty. Stealthily secession after secession was made from the mother Church, until the movement culminated in the misshapen growth of Scholasticism. This phase of philosophic history perhaps found its first opening in the teachings of John Scotus Erigena (fl. 850). His philosophy was a quaint combination of Platonic and Christian doctrines; and so incomprehensible were his views that it may be assumed that the wrath poured down on him by orthodox Authority arose rather from the spirit of scepticism which he displayed than for the commission of definite heresy.

Meanwhile a new culture had begun to influence the development of Western thought; for the centres of European philosophy, eager in their scepticism for anything new, were welcoming the now rapid spread of Arabian philosophy. This school, more properly Semitic than Arabian, did little to further the experimental side of biology, although its disciples won great renown for their Aristotelian philosophy tinged with native mysticism, and for their system of medicine and physics which a careful preservation of Aristotle's scientific work had afforded them. At the same time the teachings of the wandering Spaniards and Jews of this school took a definite hold on the current thought of Europe, rapidly hastening the dawn of the revival of independent inquiry, and tending no less to the encouragement of the objective method (Roger Bacon fl. about 1200) than to the preservation of the subjective method.

Sceptics began now to pour in from either side. The Franciscans came to the fore armed with the heretical doctrine of a plurality of souls. Thus, too, reasoned Duns Scot (fl. 1300) against Thomas Aquinas: "Since the body has form after the soul has left it, form and the soul are necessarily distinct" (3). Such wilful resistance to the received doctrine of the Church quickly roused the fury of orthodoxy. Œcumenical councils were held in rapid succession, denouncing all scepticism as heretical and finally forbidding the study of Arabian and Aristotelian philosophy. Whether because of this thunder from authority or through the more silent voice of the revival of learning, Aristotelianism fell to the ground. The year 1548, which saw the birth alike of the last Scholastic, the Spanish Jesuit Francisco Suarez (1548-1617), and of the first independent philosopher, the Italian martyr Giordano Bruno (1548-1600), marks the turning-point. The overthrow of Aristotelianism in theology and metaphysic found its equivalent in the rejection of Galenism by Natural Science. Little by little the implicit faith in Galen's infallibility had become shaken, and the veil that but half concealed the expressions of dissatisfaction with long-accepted doctrines had been gradually drawn aside. Finally, in the sixteenth century, this conspicuous revival of learning marked a final revolt against the narrow-minded credulity of previous centuries. A renaissance it truly was; Galen was fallen, Physiology was reborn.

This stimulus to independent thought was confined to no single country. Germany, France, Italy, Spain and England all produced men endowed with the revolutionary spirit.

Fernelius (1497-1558) led the way by abruptly separating the *Anima* or Soul from the Galenic pneuma. Argentieri (1513-1572) revived pre-Galenic doctrines with strangely altered significance. Others again, as Paracelsus, made the researches of the alchemists the starting-point of their theories.

Paracelsus (1493-1541)—less known by his real name, Bombast von Hohenheim—struck perhaps the most effective blow against the long-accepted infallibility of Galen. Following that of his master, Basil Valentine, his theory, essentially alchemistic, was founded on the search after the tincture, elixir and the quintessence of all things. To his mind, the Mosaic creation of the world from nothing clearly necessitated the pre-existence of a quintessence. This quintessence was conceived by Paracelsus to be of a double nature, the visible or earthly, and the invisible or astral, of which two parts everything living and lifeless is composed. Man is the midpoint of the universe, said Paracelsus, a microcosm to be studied in the centre of a surrounding macrocosm. As the fruit can only be regarded from the nature of the seed, so man can be comprehended solely from the world which preceded him. Man is made up of the twofold quintessence above described, the visible or bodily, consisting of sulphur, salts and mercury, and the invisible or spiritual. Paracelsus, however, with characteristic inconsistency, adds an *anima* or soul to the human *corpus spiritus*. This *anima* is the living breath of God. "As the body feeds on earth, the spirit on the stars," so the Paracelsian "soul feeds on Christ".

Jan Baptista van Helmont (1577-1644) may be said to have carried on and completed the work of Paracelsus. He advocated the famous doctrine of the archei derived from the master of alchemy who preceded him. Like the astral and earthly components of the Paracelsian quintessence, archeus and matter were said by van Helmont to be universal. All things, he declared, are alive in different degrees.

The archei, diffused through the tissues of organisms in living nature, build up their home by ferment action on other matter and direct the growth, movement and other functions of the part. Ferments cause the shaping, Blas the movement of matter. The stomach and spleen are the duumvirate. The former contains the great archeus which presides over the lesser and secondary archei and is dominated by the sensitive and mortal soul, the spirit of Paracelsus. A rational and immortal soul is added by van Helmont to the sensitive soul. These two souls, joined in marital equality, conjugal unity and by other quaint metaphorical ties, live together in the stomach, directing the organism in harmony. The archei when imperfect causes disease. They are ever trying to conform to the type of the seminal image (*imago seminalis*), which is the form whereof the vital breath (*aura vitalis*) is the matter.

To combat the reigning theories of principal and subsidiary archei, Réné Descartes (1596-1650) opposed the famous system on which subsequently were based the iatrophysical school of Borelli (1608-1679) and the iatrochemical school of Sylvius (1614-1672). He maintained that life, both human and animal, was a purely mechanical process and that the soul, which was absent in animals, did only that of which it was conscious, knew of what it thought and had no concern in vital activity. So revolutionary a standpoint could not but provoke a vigorous opposition, notably in Cambridge at the hands of Cudworth and Glisson. Ralph Cudworth (1617-1688) condemned the Cartesian denial of unconscious processes to the soul, and the mechanical explanation of the phenomena of life. In his attempt to steer a middle course between the debasement of soul and the rejection of mechanism, he established a universal plastic matter, intermediate between the world and God, immaterial and acting purposefully without will or reason. Even as this universal plastic nature is an inferior property of the soul of the world, so every human and animal soul has its plastic nature which bridges over the gulf between mechanism and thought. Francis Glisson (1597-1677) foreshadowed Leibnitz when, re-echoing Heraclitus, he proclaimed that everything that has substance and existence has activity. He considered the activity of life (*ἡ βιαρχία*) to be inherent not only in spiritual, but in material form. "Matter is not only capable of life but is also actually living." To this activity of substance are bound three faculties, perceptive, appetitive and motive. Nature, thus constituted with life and faculties has gradually developed her powers, until she has formed the souls of animals which are and remain merely *modi materiæ* and therein contrast with the true substance of the human soul.

A still bolder challenge to the growing iatromechanical schools was made by Gottfried Wilhelm Leibnitz (1646-1676), who endeavoured to overthrow the strictures of Cartesian dualism by endowing every particle of matter with an active immaterial force—the monad. He supposed that central monads ruled over subsidiary monads, and that in the living body the central monad was the soul. He denied that the soul knew all its actions and maintained the indestructibility and evolution of monads, ascribing the interaction of soul and matter to a pre-established harmony. This conception of pre-established harmony was actively combated by Georg Ernst Stahl (1660-1734), the last famous champion of modern Animism. His system, foreshadowed in some manner by the versatile Frenchman, Claude Perrault (1613-1688), rapidly won over many adherents. He owed his professorial chair at Halle to Friedrich Hoffmann (1660-1742), to refute whose widely spread iatromechanical doctrines he devoted his life. Stahl taught that the body lives only for the soul which directly shapes it for its own ends, and that the soul, ignorant of many of its purposeful and rational actions because of the limitations of consciousness and memory, is the source of all mental and bodily activity, perpetually fighting against that onrush of physical and chemical activities which betokens death.

The bitter controversies which took place between the followers of Stahl and those of Borelli, Sylvius and Boerhave, brought home the conclusion that experiment alone contained the key to the mystery of life's nature. Thus physiology, which had received its first recognition at the hands of Galen and had again been prominently advocated by Harvey, at length obtained its lawful place during the first half of the last century. From Haller (1708-1777) dates the final establishment of experimental biology. The collection of isolated theories and long-forgotten discoveries within his *Elementa Physiologiæ Corporis Humani*, his own researches on the nature of irritability, and his contribution to the rival theories of epigenesis and evolution, all mark the dawn of a new epoch.

Once more came about a decentralisation of the vital principle. For the researches, which—first suggested by Glisson—were extended by Haller, and subsequently by Cullen, John Brown, Broussais, Fleming and others, into the irritability of muscle and the sensibility of nerve, had a far-reaching influence on vitalistic doctrines. They made it evident that the great *anima* of Stahl was insufficient to account for those phenomena of life which were exhibited by isolated portions of fresh tissues. Already in the previous century this difficulty had been felt, and the appearances were then attributed to an "inherent tendency in the spirits and humours of the tissue in question". Partly resulting from the inadequacy of such explanation, and partly owing to the rife spirit of speculation of the day, a vast mushroom-growth of vitalism appeared at the close of the eighteenth century. In the school at Montpellier founded by Sauvages, Theophile de Bordeu (1722-1776) refused to accept Stahl's unitary conception of soul and vital principle. The importance of the all-powerful *anima* dwindled, and its functions became appropriated by vital forces resident in the various tissues of the body. Bordeu's successor, Paul Joseph Barthez (1734-1806), not only opposed the animism of Stahl and the teaching of mechanism but bitterly attacked Haller's theories which had led Bordeu to give to every organ its peculiar sensibility. Louis Dumas (1765-1813) set up a *force hypermèchanique* as the unknown and unknowable principle of life, a standpoint somewhat similar to that adopted by the great vitalist Xavier Bichat, at Paris. Lordat distinguished three distinct parts in man, material, vital and psychical, and maintained that rational life resulted from a superposition of the psychical on the material and vital elements. Meanwhile in Germany, where vitalism was not so prominent, Reil (1759-1813) clearly stated the notion of a special force peculiar to living substance, which, arising from a peculiar combination of the elements, controlled the play of mechanical forces; while Blumenbach remained to utilise a *nisus formativus* in the same loose fashion as the doctrines of nervous fluid and of stimulation were being employed in England. .

Experiment, however, running like a tortoise beside swift-footed Theory, was rapidly outstripping it in the race for Truth. The investigations of Galvani, von Humboldt, Priestley, Lavoisier and Charles Bell could not fail to convince physiologists how uncertain and indefinite were their conceptions of vital force. A few of the old school yet lingered. Thus Treviranus (1779-1837) established a hypothesis on the basis of a powerful indestructible formless material universally accompanying vital phenomena; and Autenrieth conceived an imponderable independent force which with the blood ebbed and flowed between the tissues. Ultimately, however, with the appearance of Johannes

Müller, dawned the present age of patient investigation and physiological experiment.

While Vitalism was still at its height, Johannes Müller, the father of modern physiology, began his monumental work of collecting the past writings on his subject with an ability and a thoroughness the like of which had not been employed since the days of Haller. Calling to his aid, as it has been said, not one but every method of research, Müller next endeavoured to sum up his laborious inquiries into the nature of life in a far-reaching vitalistic theory. His opinions certainly changed as years passed by; but throughout his life Müller seems to have argued that, since to him no difference was manifest between the elementary composition of living and recently dead bodies, a principle, having "the nature of force rather than of imponderable matter" must necessarily be introduced to explain this want of difference. By further reasoning, Müller inferred that all matter contained in a latent state both the vital and mental principles. Nevertheless he intended to explain life by mechanical principles, for to his mind vital force followed the lines of physical and chemical forces, however different it might be from these forces themselves (4).

While in England Sharpey (a pupil, like Müller, of Rudolphi), Bowman and Goodsir were pursuing their anatomical investigations, in Germany Schleiden, followed in 1839 by Schwann, proclaimed a new biological unit—the cell. Naturally carried away by the importance of his discovery, Schwann was led to look on growth as a kind of crystallisation-process in the cell, and to give a quasi-mechanical explanation of vital phenomena, diametrically opposed to the vitalism of his time. These views were vigorously denounced by E. H. Weber and by Virchow. But one of the most fatal blows (5) to the dying conception of the vital principle was now given in 1845 by J. Robert Mayer, who introduced the far-reaching conception of the indestructibility of force. In 1859 the first edition of Darwin's *Origin of Species* was published.

This rapid succession of revolutionary discoveries made a reaction towards mechanism clearly imminent. J. R. Mayer in 1845 and E. W. Weber in 1858 maintained the movements of a living as of a lifeless body to be dependent on forces acting on it from without. Weber's pupil, Carl Ludwig, and Müller's school of rising physiologists in 1847 banded themselves together for an avowed "*Befreiungswerk aus dem Vitalismus*". A few remained, like Liebig, Wagner and Lotze, to assert the existence of a special vital principle, Liebig standing alone when he proclaimed that in the living body chemical and physical forces acted under the influence of a non-chemical force or cause. So might he preach, but no physiologist would lend an ear. Eagerness for a unitary conception of living and lifeless nature called all to experiment and converted all to Mechanism. Moleschott, Vogt, Büchner (6) and Häckel (7) hurried forth with views of the crudest materialism. In 1853 Rudolf Wagner was forced to cease his *Physiologische Briefe*, so ill-received were his protests against materialism. His offer to meet Ludwig at the Göttingen Congress of Physiologists in 1854 was frustrated (according to his own statement) by illness. Certainly it is said that not one physiologist out of 500 present raised his voice in favour of a special soul-substance. During the same year Wagner published his *Glaube und Wissen*, wherein he stated that as regards knowledge he followed the teachings of science, but that his faith he shared with the humblest charcoal-burner. This met Vogt's fiercely polemic reply which he entitled *Köhlerglaube und Wissenschaft.* Here the bitter fight ended, and with Rudolf Wagner the last of the ultra-vitalists passed away (8).

Meanwhile in France, Claude Bernard was pursuing his famous researches, and bringing his critical acumen to bear in the final overthrow of eighteenth-century vitalism. He predicted the future assimilation and agreement of the vitalistic and mechanical theories of life (9), and, like his master Magendie, vehemently opposed the current doctrines of the Parisian school. Wagner's *Handwörterbuch der Physiologie* contains an introductory chapter by Hermann Lotze, entitled "Leben-Lebenskraft". An examination of Lotze's views scarcely comes within the scope of this essay, but, if only because of their bold independence, they deserve passing mention here. Lotze is indeed a thorough-going mechanist so far as the a-psychical processes of life are concerned. But, like Descartes, he finds himself compelled to conclude that "the living animal body considered as a mechanism is distinguished from all other mechanisms by the possession of a principle of immanent disturbances which in force and frequency follow no mathematical law" (10). This conception of a soul is developed to a marked degree in Lotze's later writings, where also the vigour of his attacks on vitalism is correspondingly diminished. In certain works he had hesitated to admit the rule of the soul (unconscious of the process by long habit) over metabolism and development (11). In after years, however, the peculiar relation which he held to subsist between Metaphysics and Psychology, the necessity of an inner unity within consciousness and of a principle which directs the evolution of the individual and species, led to the establishment of a thorough-going Spiritualism. A further examination of these peculiar views is here impossible. At the hands of Virchow (12) (13) they have received a criticism of the most vigorous character. Another critic, Hartmann, has rightly said that Lotze never utters an Aye without an equally emphatic Nay. Lotze's change of standpoint, his subtlety and self-criticism, all contribute in defying a concise presentations of his views (48).

Lionel Beale has sought a purely vitalistic theory to overthrow the raging materialism of his time. He has periodically continued the publication of his views during the last twenty-five years. He argues that there is something unknown, some mysterious force or power, which works in living matter only, is only temporarily associated with that matter, and is identical with a something which "chemists admit that . . . dead matter does not possess," which "transforms force and rearranges the elements of matter" (14).

In the end the weapon, by which that earnest band of Berlin physiologists had hoped to crush their opponents, recoiled like a boomerang on their own heads. The researches of Ludwig on salivary and renal secretion, followed more recently by those of Heidenhain on the formation of lymph and assimilation of food, and of Pflüger on internal respiration, afforded convincing proof of the complexity even of those vital processes which had hitherto been considered simple, and of the extreme difficulties which a mechanical explanation involved. Notwithstanding this undercurrent of changing thought, no return to vitalism can be said to have openly taken place until the years 1887 and 1888, when Bunge published his lectures on physiological and pathological chemistry, and Rindfleisch delivered his *Rectoratsrede* at Würzburg. The latter boldly advocates a "Neo-vitalism" which "has developed quite independently of those old vitalistic theories," which "recognises vital force only in its most intimate union with a life-substance that belongs to it. The theory honestly endeavours to explain vital phenomena by the physico-chemical constitution of life-substance . . . It does not, however, hide from itself that apart from the phenomena of consciousness there are facts which will offer insurmountable obstacles to the investigation." A somewhat similar standpoint is upheld by Bunge in the preface to his *Lehrbuch der Physiolog-*

ischen und Pathologischen Chemie. He proclaims that we do not see life, but only its results. There is something which to his mind is beyond the mechanically explained phenomena of respiration, circulation, nutrition, locomotion and development, a something which "vitalism will assuredly reveal in the face of the failure of chemistry and physics". It is Bunge's opinion that psychology alone can explain physiology. Study of the internal world must precede that of the external. This and this only is the path, he declares, by which the one riddle of life, Activity, may be solved.

(*To be continued.*)

V.—DISCUSSIONS.

COMPARISON OF SOME VIEWS OF SPENCER AND KANT.

THE following definite comparison of some views of Spencer and of Kant may be deemed of sufficient interest for publication.

Mr. Spencer holds "that Space is a relative reality"[1] while entirely rejecting Kant's idea to the effect that Space is a property of the perceiving mind, or a subjective phenomenon.

But if Space be relative, how can it be otherwise than partly subjective at least? For that which is "phenomenal"—every "phenomenon" must be, at any rate, partly subjective or dependent on the subject. And Mr. Spencer indeed affirms :—

"There is some ontological order whence arises the *phenomenal*[2] order we know as Space" (*Principles of Psychology*, vol. i., 3rd ed., p. 227).

This—to judge from the wording—is an inferred conclusion, not a statement of an hypothesis. This means that when we are contemplating or analysing Space, we are not contemplating something absolutely existing—as most seem to suppose—which we want to analyse, but we are contemplating a phenomenon or effect; *i.e.* the *effect* of the action of some unknown existence on our consciousness. *What* acts on consciousness to produce the impression "space," we cannot say. One is not analysing space then as something existing independently: but one is analysing the *resultant* of the action of something on the mind (according to the *Principles of Psychology*).

But is Mr. Spencer's conclusion demonstrable: if so, Kant, whom he repudiates entirely, is at least partly right. Now, it is at least certain that space (regarded in the *Principles of Psychology* as a "phenomenal order") cannot be conceived to be absent. In the *First Principles* (5th ed.), the author says :—

"The non-existence of space cannot by any mental effort be imagined" (p. 34). Nevertheless if what "we know as Space" be phenomenal, phenomenal space must have been non-existent before mind existed: since (by Mr. Spencer's definition) phenomenal space is the product or resultant of the action of an "ontological order" or absolute existence on mind. The non-existence of space must be imagined then, if we are to conceive space to be generated by the action of some other entity ("ontological order") on our minds or brain-consciousness. Perhaps Mr. Spencer may reply: we cannot conceive this, and yet it may be possible. But Mr. Spencer considers he has proved it apparently: as he affirms distinctly (not as a mere hypothesis)—"There is some ontological order whence arises the phenomenal order we know as Space" (*loc. cit. sup.*). And again—"All we can assert is, that Space is a relative reality".[1] "Our conception of Space is produced by some mode of the Unknowable" (*First Principles*, p. 165). According to the author then, Space is *not* an absolute existence, or it is *not* something that exists independently of brain-consciousness (mind).

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[1] "All we can assert is that Space is a relative reality" (*First Principles*, 5th ed., p. 165).

[2] The italics are mine.

In spite of this, on p. 49 in his criticism of Kant's idea, Mr. Spencer remarks as follows:—

"The question here is—What does consciousness directly testify? And the direct testimony of consciousness is, that Time and Space are not within but without the mind; and so absolutely independent of it that they cannot be conceived to become non-existent even were the mind to become non-existent" (*First Principles*, p. 49).

But if Space be "absolutely independent" of mind—which Mr. Spencer affirms to be "the direct testimony of consciousness"—how can Space be "a relative reality" as he states it is (at p. 165). For, by very definition, "relative" means *related* to mind, and *not* independent of mind? How reconcile what seems to be an open contradiction? And the author's statement in his *Principles of Psychology*, vol. i., may be here appended in full:—

"More certain, then, than the Relativity of Relations as we conceive them, is the existence of Non-relative Forms to which they refer; since proof of the first involves perpetual assumption of the last. There is some ontological order whence arises the phenomenal order we know as Space" (p. 227).

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[1] This passage quoted in full is: "All we can assert is that Space is a relative reality; that our consciousness of this unchanging relative reality implies an absolute reality equally unchanging in so far as we are concerned; and that the relative reality may be unhesitatingly accepted in thought as a valid basis for our reasonings; which, when rightly carried on, will bring us to truths that have a like relative reality—the only truths which concern us or can possibly be known to us" (*First Principles*, p. 165).

This distinctly implies therefore that what we know as Space is a phenomenon or effect produced by the action on consciousness of some unknown cause or absolute entity. In a parallel way to this, Kant regarded Space as a phenomenon. He says, for example:—

"We can then only talk of Space or of extended being from Man's point of view. If we leave out of account the subjective condition under which alone we can have external perception (however we may be affected by objects); then the presentation ('*Vorstellung*') we have of Space means nothing at all" (Kant's *Kritik der reinen Vernunft*, Verlag von Philipp Reclam, Leipzig, p. 55, translation of passage).

This can only mean that what "we know as Space" is the "phenomenal order"; *i.e.*, we can only view Space as a phenomenon, whatever concealed cause ("ontological order") may be acting on our brain-consciousness to produce the effect called by us "Space". The Space we are conscious of is then *not* an absolute existence, according to the *Principles of Psychology*. But the previously quoted passage from the *First Principles* implied that Space was an absolute existence, in that Mr. Spencer says that by "the direct testimony of consciousness," space is shown to be "absolutely independent" of mind. This then looks like a contradiction in terms. In view of this, may it not be legitimate to regard Space as the "ontological order" itself; while no "phenomenal order" (dissimilar) exists?

"Absolutes" are said to be inconceivable, or at least they cannot possibly be more than undefined conceptions. But does not Space as viewed by us come under this category; it is undefined as a conception, a something, and yet not an entity in the ordinary sense, since it has none of the properties of an entity (or thing) usually so termed. Contrast with this Matter, which is clearly an entity; because Matter has definite properties or attributes, *inertia*, shape, elasticity, capacity to resist, etc. But where is the attribute of Space (which can justify its being called an existence) unless indeed Space have the indefinite attribute of infinity, or unless to be without shape be an attribute, the converse of the attribute of shape.

But is not this indefiniteness favourable to the view that in the case of Space we have some appreciation of absolute existence?

All sense-impressions are known to result from physical interaction between the brain and existences. We may say the brain alone, because all the senses terminate in the brain. Now this physical interaction may in some cases (for certain reasons, we may question if in all) produce a so-called transformation, "transfiguration" or phenomenon. Thus colour, for instance, is the resultant of the interaction between vibratory motion and the brain-consciousness. This ends in a transformation or phenomenon, as we see that vibratory motion and colour are not identical: the "resultant" (so to speak) is like neither of the two component forces.

We can certainly say now that where there is no physical interaction of forces between a given existence and the brain-consciousness, there can be no transformed ("transfigured") impression received. Colour, for instance, evidently could not be impressed on brain-consciousness without interaction of forces. Space we know (whether a phenomenon or an absolute) cannot be acted on by force, and can itself produce no physical action. Matter, on the other hand, can both act physically on the brain, and be acted on itself. So far we are within the regions of certainty.

May then Space be truly a case of an absolute, appreciated as it actually is; because where there is no physical interaction of forces, no resultant (phenomenal) transformation is possible in the impression received?

Absence of resistance to force (or yielding to motion freely) may under certain circumstances produce a distinct impression, although a negative one: and sometimes a void encountered unawares may act on consciousness more strongly than a rigid resistance. May this have some application on the question as to how the idea of the existence of Space is physically generated?

But while appreciating much of acknowledged excellence in Mr. Spencer's works: nevertheless the wording of the following proposition seems to contain an objectionable ambiguity, which it may be desirable to point out. Mr. Spencer says:—

"We are forced to the conclusion that the relations of co-existence . . . as we know them, do not obtain beyond consciousness." (*Principles of Psychology*, vol. i., p. 223.)

These final words "*beyond consciousness*" are ambiguous: they tend to imply beforehand that that which corresponds to any relation of co-existence is beyond consciousness; whereas this is just the point the author wants to prove. It may be suggested that this disadvantageous ambiguity might have been avoided by some such slight change in the wording of the proposition as to the following (say):—

"We are forced to the conclusion that the relations of co-existence . . . as we know them, do not obtain in the existences themselves".

The question here is—Does the perceived relation of form or shape belong to the existence in itself; if so, the information sought in this particular research cannot be said to be "beyond consciousness". To seek for anything that is "beyond consciousness" would be absurd evidently. It might very well be that a perception of form or shape might be identical with what actually exists: although we may have no absolute knowledge or proof that this is so. Mr. Spencer however seems to think he can demonstrate a negative about an absolute, *viz.*, that an existence in itself has *not* form.

It appears that Mr. Spencer thinks it justifiable to apply the same reasoning to *perceptions* as to *forces*, or to subject them to analogous laws. He argues that because a resultant force[1] differs from its components in value and direction, that therefore a resultant perception (due to an interaction between brain force and that coming from an existence in the universe) must have undergone an analogous modification; *i.e.* that the perception must be a "transfiguration" of what exists. But while a resultant force changes in *value*, it does not change in *kind* or quality. No proof here exists that a perception represents a change in *kind* or quality passed through: and yet Mr. Spencer makes this argument a basis for the sweeping proposition that every perception involves preceding transfiguration or transformation. How can we know that a space relation of an object (its form) presents a change in kind or quality undergone in the mere procedure of investigating what exists? Mr. Spencer however appears to consider he can demonstrate that existences in themselves are without form:[1] although to our measurements they present form. The contrary view that form is absolute, is one of ancient standing. Antiquity is no proof. But in any case, since it is important that a statement should be free from obscurity before any proof (for or against) is attempted, it may be in the interests of truth to have pointed out what appears to be a confusing ambiguity in the wording of the proposition above quoted: not to insist further on the questionableness of the method adopted in support of the proof offered, as expressed in the words—" We are forced to the conclusion " etc.,

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[1] See *Principles of Psychology*, vol. ii., p. 505 pp., etc.

To summarise the main point. It is certain that a " transfiguration " or transformation cannot occur without a physical cause, *i.e.*, without the interaction of physical forces. It is certain that Space can neither be acted on by forces nor itself influence by means of forces. Therefore it appears impossible to conceive Space to be the result of any transfiguration (to be a phenomenon or " phenomenal order ").

On the other hand, it is certain that Matter is both acted on by forces and can react by forces. Therefore (contrariwise) it is easily conceivable that an observed attribute of Matter (say *inertia*) may be the result of some accomplished transfiguration. In other words, the attribute *inertia*, as it appears to us, need not be the same as that which exists. It is not *demonstrable* that there is a difference; because the relative and the absolute may be conceivably identical. The same applies to form. But it *is* demonstrable that with no forces to act, there can be no change effected. Moreover to suppose Space to be a consequence of an accomplished transfiguration would be to imagine Space to be capable of varying or of being different from what it appears to us—which it is impossible to imagine.

Form (viewed as absolute) can be easily conceived to become a perception in brain-consciousness. Nothing would be gained by a transfiguration here. Vibrations at the rate of several billions per second cannot be impressed numerically on brain-consciousness without transfiguration into Colour, graduated with the rate of vibration: as, for instance, the observed position of a line in the spectrum instantly gives the period numerically. But, if, on the other hand, a square or a triangle exist absolutely, there is no difficulty in imagining it to be impressed on brain-consciousness without foregone transfiguration. In any case, it is not difficult to conceive that (say by natural selection, etc.) there may be a mechanism in the brain to prevent such transfiguration from occurring when it is not wanted. Or practice may effect much, just as by practice we see single with two eyes, and view objects the right way up, although the images are reversed on the retinæ. The transfiguration (in the sense of inversion here) may quite possibly be neutralised by a special adaptation in the brain-mechanism. In the end, one is even not hampered in a dissection under the microscope, although the image is again reversed here. The inversion is corrected by the faculty of touch, and one ceases to think of its existence. Possibly by lengthened practice (aided by touch) one could see correctly with a cylindrical cornea. It is astonishing what self-correction and self-adaptation can do, by practice, with the senses generally.

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[1] In the *Principles of Psychology*, vol. ii., p. 494, may be found a parallel statement on this head, *viz:* " No relation in consciousness can resemble, or be *in any way akin to*, its source." (The italics are mine.)

But what it is ventured to contend for here is that while there is no proof that (where there is no demonstrated practical purpose) transfiguration in sense perception must have occurred : there *is* proof that transfiguration cannot have been passed through without the action of force. While the old Realism is doubtless no longer sustainable as a whole : it appears probable that some investigators in the branch of natural knowledge called "psychology" go too much to the opposite extreme in assuming[1] that *every* perception on the brain-consciousness is the result of transfiguration. It would seem more likely that the truth is here represented by a compromise.

S. TOLVER PRESTON.

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[1] It appears that Kant assumed this also ; but it does not seem that he attempted to give any proof of the proposition, as Mr. Spencer has.

PERCEPTION OF CHANGE AND DURATION—A REPLY.

I MIGHT perhaps consider it simply as a compliment, that the able Editor of MIND should have devoted his Inaugural Address, as newly elected President of the Aristotelian Society (see MIND for January last, pp. 1-7), to discredit, though without naming it, my central doctrine of Reflective Perception, a doctrine which is destined, in my opinion, to render obsolete the hitherto prevailing method in psychological thought, I mean the method of taking consciousness and its supposed immaterial Subject together, undistinguished from each other, and examining them as together distributed into various mental functions, or functions of the mind. And as a compliment perhaps I should have been contented to regard it, could I have forgotten the marked acerbity of the two determined attacks, on Dr. Stout's part, which have preceded the present one, both of them founded, like the present, on misconceptions.

That a psychologist habituated, like Dr. Stout, to the prevailing method should find it difficult at first to avoid misconceiving my meaning, and so be led into sheer misunderstanding of even the plainest language, was probably inevitable. At the same time the skill of the rhetorical artifice, which he employs in the present address to impart that misunderstanding to others, is, to say the least, remarkable. "I am acquainted," he says, at page 1, "with only one metaphysical writer who has answered these questions" [those relating to former and latter parts of a time-series] "without ambiguity or haziness. Mr. Shadworth Hodgson, in the wonderfully acute and penetrating analysis contained in the second chapter of his *Metaphysic*, has defined his position on this point with refreshing clearness. He explicitly affirms that, in perceiving a time sequence, the presentations of prior stages of the sequence must persist in later stages—with a difference only in vividness and in time position. Save only in these respects, there is a sameness in point of kind between the presentations as they originally occur and as they are retained in memory."

The expression "refreshing clearness" is admirable. It gives readers to understand that Dr. Stout cannot possibly have mistaken, and therefore has not misstated my meaning. But in reality his statement far outruns the grounds for it in my chapter ii. In the first place he makes no mention of the fact, which I am careful to notice, that I am not speaking of memory proper, but only of memory in the sense of retention, the mere rudiment of memory in the proper and usual sense. And secondly, there is no such ambiguous and apparently sweeping statement, either in that chapter or elsewhere, as that "in perceiving a time sequence, the presentations of prior stages of the sequence must persist in later stages, with a difference only in vividness and in time position". In chapter ii. I confine myself to the simplest cases, first of duration, secondly of sequence, cases in which, as I believe, the duration and sequence can be actually observed. I submit to analysis, first, the hearing of a single note, C, in which I show that duration is involved; and, secondly, the hearing of two notes, C, D, one after the other, which is a case of sequence: "Note D appears above the threshold of consciousness, but without excluding note C. That is, we no longer isolate a single note from its context for the purpose of analysis, but a sequence of two notes" (*Metaphysic of Experience*, vol. i., p. 63).

This, I maintain, is a case which stands as a sample of innumerable others actually experienced. In innumerable cases we begin to hear one sound before we cease to hear another sound preceding it. We have thus a plain and clear experience of sequence. What further evidence is needed? What clearer evidence is possible? But what says Dr. Stout? It is noticeable in the first place, that he cites no words of mine to show what I suppose myself to be maintaining; he contents himself with tacitly (on the strength, I suppose, of his "refreshing clearness"), identifying my meaning with a certain theory of a "memory image" being necessary for perceiving a time sequence, and then bringing against that theory the authority of two eminent German psychologists, one of whom directly combats it, while the other, in attempting to defend it, makes admissions which are even more fatal than the attack.

Now to take first the case of sequence. Dr. Stout, as I have said, omits to notice that I speak only of memory in the sense of retention, not of memory proper, which involves recurrence. But of what kind are the memory images belonging to the theory which Dr. Stout considers untenable, and taxes me with holding? They are images belonging to memory proper, the sound or other perception, of which they are images, having itself ceased to be presentatively heard. But this circumstance broadly and obviously distinguishes the so-called memory-image theory, in which they figure, from my view of memory in the sense of retention only, which I am careful to distinguish from memory proper, and of which alone I speak in chapter ii. Taking memory in this latter sense, my view is that there is an immediate reflective perception of sequences in their lowest terms, the earlier portions of which may be said to *become* memories and representations, and so to lay the foundations for memories and representations proper, *before* they cease to be heard. For, by my term *reflective perception* is meant no more than this, that the content perceived begins to recede into the past, at and from the instant of its crossing the threshold of consciousness, which is an ever-forward-moving present instant (*Metaphysic of Experience*, vol. i., p. 66, etc.).

The prevailing method in psychology, on the contrary, proceeds, as said above, on the basis of distinguishing so-called mental functions, presentation, representation, memory, thought, imagination, and so on, from one another, and consequently considering the phenomena attributed to one as different in kind from those attributed to others; a method which, however convenient for psychological experimentation, would, if assumed as a basis in philosophy, not only lead to conclusions contrary to the plainest facts of experience, but would land us once more in philosophical atomism, from which, and from the *a priori* assumptions which it seemed to necessitate, it has taken us a whole century to escape. Experience after all, not psychological theory, is the ultimate source and test of knowledge. Will Dr. Stout maintain, that his two eminent German authorities have made it impossible to suppose that we can ever in immediate perception hear, say, a postman's double rap, or distinguish it in immediate perception from a single rap? Yet that such simple experiences as these are facts of daily and hourly occurrence, and that they supply the simplest instances of our perception of sequence, is all that I am maintaining in my chapter ii., as the result of an analysis of the sequence C, D, following on one of note C alone.

Next as to the case of duration, as in hearing a single note C. Here, indeed, and here only, apart from Dr. Stout's misconceptions, do I seem to come into real antagonism with the opinion of one of Dr. Stout's German authorities, Herr Schumann, whom, at page 3, he quotes as saying: "For me, a tone-sensation of one second's duration is a unity not really capable of further division, a unity which can give rise to a plurality of judgments—judgments referring to intensity, pitch, timbre and temporal duration". No notice is here taken of the fact, that *some* duration is an essential and inseparable element in the perception of every tone-sensation, though its relative duration as compared to others may no doubt be the object of a judgment, because, as the passage quoted proceeds (in psychological fashion) to argue, "the simplest assumption is that a tone which lasts a short time for that very reason affects us differently from a tone which lasts a longer time".

I, on the other hand, being mainly occupied, not with judgments as to the relative length of durations, nor with ascertaining the minimum of duration requisite for audibility, nor yet with the length of duration within which no differences are audible, but with duration as an inseparable element of heard sounds, and building on this inseparability as an undeniable fact, have expressly remarked, that "memory in its essential characteristic, namely, retention of a past in a present moment, has now been shown to take its place among the ultimate facts of experience, being involved in the simplest cases of perception, for which in fact it is but another name" (*Metaphysic of Experience*, vol. i. p. 71). The fact of retention, when consciousness is the thing spoken of, is directly involved in duration, since duration of itself implies difference between former and latter parts in time, though this difference can only be positively observed when there is some difference in the content perceived, that is, when sequence is observable as well. I think, therefore, that Dr. Stout's objection, founded on the fact that, for himself and Herr Schumann, "a tone-sensation of one second's duration is a unity not really capable of further division," is entirely abortive. Let experimental psychologists show, if they can, that tone-sensations of one second's duration have their beginning and their end *simultaneous*, and they will have done something at any rate towards establishing that atomism in philosophy, which sometimes seems to be their most cherished purpose.

How far Dr. Stout identifies, or wishes his readers to identify, my views with the *a priori* requirement insisted on by the late T. H. Green, mentioned at page 1, or with the *a priori* argument, mentioned in his concluding paragraph, for the existence of the "hypothetic memory images" which he rejects, is left uncertain. A clear statement on Dr. Stout's part, that no such *a priori* requirement or argument is to be found in my pages, which is the simple fact, would have been welcome, could Dr. Stout have induced himself to make it. For I would remark in conclusion that, as to T. H. Green's alleged *a priori* requirement for the apprehension of succession, it is precisely instances of the apprehension of duration and succession which I take for analysis in my chapter ii.; while, as to the hypothesis of memory images, rejected by Dr. Stout and his German authorities, of this hypothesis I make no use at all in performing that analysis. In my view, the experience of duration and sequence is identical with the apprehension of them, both experience and apprehension being taken as modes of consciousness as a knowing, and abstraction being made, for the time, from the knowing or conscious Subject, together with the ways in which his function of knowing may be performed.

SHADWORTH H. HODGSON.

HAVE I misunderstood and misrepresented Mr. Hodgson? He says that I have, and considering the difficulty of understanding philosophical writings, which are at once original and subtle, the presumption is that he is right. But I must confess my inability to discover wherein the misunderstanding lies. I can only beg of readers to go back to chap. ii., vol. i., of the *Metaphysic of Experience* and examine it carefully. I cannot see what other interpretation than mine the following passage is susceptible of: "The retrospective or representative moment of experience has thus for its content the perception of a process-content, differing from itself in point both of vividness and place in time sequence. Its content as a perceiving is thus identical in kind, but different in vividness and in time, from that of which as its object it is the perception. There is in fact a repetition of the objective content in the objective perception of it." This is perhaps the most explicit passage, but the tenor of the whole chapter is to the same effect. [G. F. S.]

VI.—CRITICAL NOTICES.

Naturalism and Agnosticism. By JAMES WARD, D. Sc. Gifford Lectures delivered before the University of Aberdeen, 1896-98. London: Adam & Charles Black, 1899. Two volumes, pp. xviii., 302; xiii., 291. Price 18s.

ONE may assert without much fear of contradiction that Prof. Ward's Gifford Lectures are *the* philosophical book of the last year. *Naturalism and Agnosticism* is not a work to be hurriedly skimmed or lightly appraised in a page or two of review; it is emphatically a book to be read and re-read and then re-read again—a true storehouse of brilliant and suggestive metaphysical and psychological discussion. Indeed the very excellencies of these lectures make the task of the reviewer a difficult and, at times, an ungracious one. When a philosopher of Prof. Ward's eminence publishes a treatise dealing with questions of the first importance in every branch of philosophical science, he is sure to say much which all students of the subject must welcome with thankfulness, and sure also to say some things in which any individual student will be unable to concur. And when, as in the case with the present writer, the acceptance extends to all or almost all the main principles at stake, while the points of difficulty or difference affect the details of the argument, the critic must be constantly tempted to emphasise these minor points of disagreement in a way which may tend to obscure the essential similarity of his own philosophic position to his author's. Not to speak of the probability that, when one is so unfortunate as not to be able to follow Dr. Ward in a matter of epistemology or psychology, the mistake will turn out to be with one's self. Hence, as I shall be forced in what follows to speak more than once of points where Dr. Ward's argument appears open to criticism, I should like to say once for all at the outset that nearly all these points are, in my judgment, of secondary or less than secondary importance, and that the main argument of *Naturalism and Agnosticism* seems, to one reader at least, as conclusive in its results as it is felicitous in its arrangement. No more valuable contribution has been made to an "idealist," or as Prof. Ward prefers to say, a "spiritualist" philosophy since the publication of Mr. Bradley's *Appearance and Reality* seven years ago, and no more damaging exposure has ever been given of the baseless and uncritical assumptions which materialistic and agnostic thinkers are fond of presenting to us as the demonstrated and established teaching of "science" about the constitution of the universe and our own position in it. As a critic of these "scientific" assumptions Dr. Ward has this advantage over Mr. Bradley, that the plan of his work enables him to deal with them in a concrete way and with a wealth of illustration much more readily apprehensible to the general reader and even to the average student of philosophy, than the profound but difficult and abstract argumentation of *Appearance and Reality.* There are three main classes of students to whom *Naturalism and Agnosticism* ought particularly to appeal. In the first place, the "natural theologians" ought to be specially grateful to Prof. Ward. Spiritualistic monism does not perhaps necessarily lead on to theism, but it is at least certain, as Prof. Ward shows, that materialistic monism and agnostic monism exclude any genuine theism, hence so powerful a defence of the spiritualist position and so telling a criticism of the popular agnosticism should continue for years to furnish the more intelligent defenders of theistic beliefs with their most effective weapons of controversy. In the second place, Prof. Ward's exposure of the fallacies of dualism and of naturalistic or agnostic monism is so thorough and searching, that it may fairly be said any future exponent of a non-idealist philosophical system will be bound to take account of it and answer it, on pain of being condemned in advance. And in the third place, idealists of all shades of philosophic belief cannot but welcome most heartily so accomplished and fearless a champion of their common cause. Idealism is, of course, a word of somewhat uncertain meaning, and between those idealists who, like Prof. Ward, stand closest to Leibnitz and Lotze, and those who stand closest to Hegel there are important differences, which are not all differences of detail. Yet all who are agreed on the main principle that it is in mind, and nowhere else, that we are face to face with the central reality of the universe, must, whatever their disagreements among themselves, feel directly concerned in the success of so direct and trenchant an attack on the common foe. It is not so much the inherent difficulties of a spiritualist conception of the world that stand in the way of the general acceptance of Idealism, as its supposed inconsistency with certain supposedly established scientific generalisations about the constancy of the world's mass and energy and the universal reign of mechanical laws. It is by a direct examination of these supposed scientific principles and of the evidence for them, such as is conducted in these Gifford Lectures, that the cause of idealism can at the present moment be most effectively served; by-and-by, when the main principle of idealistic philosophy has been successfully vindicated, and the nugatory character of the "scientific" objections against it satisfactorily exposed, it will be time for the disciples of Leibnitz and of Berkeley, of Lotze and of Hegel, to adjust their internal disputes. And it is because, as I have already said, the present writer at least feels both the vindication of idealistic principles and the exposure of "scientific" assumptions afforded by Prof. Ward to be in the main irrefragable that he regards the Gifford Lectures of 1896-98 as so great a contribution to English philosophy.

The doctrine against which the main argument of Dr. Ward's treatise is directed is of course the theory, of late years conveniently christened "Naturalism," which teaches that in the concept of the world as a single mechanical system of constant mass and energy and rigorously conforming to the laws of kinematics we have a true and adequate account of "what really goes on" and that everything mental must in consequence be regarded as epi-phenomenal, as a mere "collateral product" of a physical evolution, running "parallel" indeed with the series of physical causes and effects but never entering into causal relations with it. As he has admirably shown, the main supports of this now popular philosophy are three in number, (1) the mechanical theory of physical processes; (2) the theory of evolution; (3) the theory of psychophysical parallelism. If naturalism is to be accepted as an adequate account of "what goes on" in the real world, then three fundamental propositions must be asserted. All physical processes must be capable of being resolved into the velocitis and accelerations of masses; organic beings must be held to have been produced by an evolution of some kind out of inorganic masses; the mental series must run parallel with the bodily series, but must never interfere with it. Conversely, if any one of these three positions, not to say all of them, is untenable, if the facts of the physical world cannot be adequately represented in diagrams of velocity or acceleration, if evolution itself is inconceivable apart from the operation of that mental factor it is supposed to produce, if mind can be shown to exercise a causal function in the physical world, the whole philosophic structure of naturalism is no better than—in Dr. Ward's phrase—"a house of cards," and must go by the board. In the first three parts of his book the author sets himself to show in elaborate detail that this is really the case. The "mechanical theory," "the theory of evolution," and the theory of "psycho-physical parallelism" are all examined and found wanting, and we are left early in volume ii. with the conviction that naturalism has entirely failed to make good its pretension to give an account of "what really goes on" behind "the veil of appearances". In these three sections of his work Dr. Ward is thus primarily engaged in the metaphysical criticism of the principles of physical and psychological science. In what remains he is chiefly concerned with questions of epistemology. The break-down of naturalism has left us with three possible philosophical alternatives. If mind is not an "epiphenomenon," then either (*a*) there are two utterly disparate but equally real worlds, a world of things and a world of minds, or (*b*) the one world is in constitution neither body nor mind, but a *tertium quid*, or (*c*) the world is in its ultimate nature mind or spirit and nothing else.

In the two concluding divisions of the work Prof. Ward examines these residual alternatives. He first of all sets aside dualism as a philosophical system by the simple but conclusive method of pointing out the intellectual confusion in which it has its origin. Having thus led up to the recognition of monism as the only really satisfactory philosophy, he is now able, in his concluding section, by eliminating the neutral or agnostic monism so often professed by the more subtly minded of our men of science, to conduct us to an idealist or spiritualist interpretation of the world as the only one which does full justice to the concrete facts of experience. It will now be proper to say something more in detail of Prof. Ward's treatment of each of these sections of his task. It is probable that the part of his work which will command the most general admiration among those who, without being in everything disciples of the Leibnitz *cum* Lotze school, accept the general principles of idealism, is the criticism of naturalist assumptions. Certain metaphysical tenets with respect to activity and freedom which largely colour the argumentation of the last two sections and tend to separate Prof. Ward from thinkers of the type of Mr. Bradley, are much less prominent in the earlier lectures where the common cause of a non-materialistic interpretation of the world is being argued against the common enemy. In this division of his treatise Prof. Ward has, as we have seen, a threefold task to accomplish. He has to show that even the physical world, as it exists for actual experience, is something more than mass-particles in motion, that the life and order of the world is not accounted for upon the theory of evolution in the absence of intelligent guidance, and that the events of the mental series cannot be thought of as merely concomitant with those of the physical. In all three departments of his task Prof. Ward appears to the present writer to have proved singularly successful. His criticism of the mechanical theory of physical processes, from the large body of facts brought together and the abundant use made of the work of specialists in physics, is exceptionally useful to the student of metaphysics who is debarred by the want of special training and equipment from first-hand knowledge in such matters. In dealing with the mechanical theory two main questions have of course to be raised. There is the general question of the nature of kinetic conceptions and their relation to the actual world of experienced fact, and there is also the special question of the bearing of the doctrine of the Conservation of Energy on the problem of self-determination and human freedom. Dr. Ward's attitude towards the former of these questions is in the main that already adopted in Germany by Kirchhoff and Mach, and in England by clear-headed men of science like Clifford and Karl Pearson, an attitude which seems to be absolutely forced on us by any serious attempt to understand the connexion of mechanical principles with the world of fact and life. Prof. Ward shows conclusively that the standing tendency of mechanical science since the days of Gassendi and Newton has been away from concrete causal explanations and in the direction of abstract mathematical calculation. The logical outcome of this tendency we see in the resolution of mechanics into kinetics, and the substitution of mass-particles and their accelerations for the solid corpuscles and moving forces of the older atomism. With the transition from the solid atom to the mass-particle, which retains no one sensible property of body, we pass once for all from the attempt to *describe* "what really goes on" in adequate terms to the attempt to *calculate* its course. Mechanical science, thus transformed, becomes, as Prof. Ward ably argues, a merely quantitative science, a branch of abstract and *a priori* mathematics. It reveals its character as such, in the first place, by the extraordinary limitations under which it works. The machines and forces of the "mechanical theory" in its only consistent form are not the machines and forces of the world of human experience. Suppose, for example, to take one of Prof. Ward's instances, we require to find the conditions of equilibrium for a given lever. In any concrete case, the conditions will be practically infinite in complexity. We require to know the actual length of the arms of the lever, and again the nature of the material of which it consists, and also the nature of the load. For the lever might be made "of lead or of lancewood," and the load might consist of "dynamite, sheet-glass or putty". Again, suppose that the problem is to raise the load against the force of gravity acting at a fixed place and date. The amount of the force to be applied will of course vary, as the force of gravity varies, for every different place and every different date. But abstract mechanics knows nothing of differences of material structure, nor yet of places and dates. Its levers and crowbars are lines of a given length, incapable of being altered in form or dimension. Its masses have no qualitative differences. It deals with positions in a spatial or temporal series, not with places and dates; it calculates but, from the very nature of the case, it never actually measures. In all problems of abstract mechanics and kinetics we are, in fact, dealing with quantitative determinations which afford no clue to the concrete character of that which they determine. Mass, for instance, in kinetics is simply a mathematical constant representing a ratio between accelerations as measured by reference to an arbitrarily selected standard. So again force has long been recognised as nothing but a compendious name for "rate of change of momentum". And it is easy to see that the same must be true of "energy," which in the "kinetic" form to which the strict application of mechanical methods reduces all its manifestations is of course a mathematical function of momentum and velocity. Thus the mechanical theory, taken as an account of "what really goes on" in nature, as Prof. Ward argues, refutes itself the moment it is pushed to its logical consequences. In the very attempt to formulate its fundamental conceptions we are driven to convert them all into a set of mathematical constants, eminently valuable for purposes of calculation, but of no more avail than the *x*s and *y*s of pure algebra as an account of real concrete processes. Thus, as Prof. Ward says, the application of the abstract kinetical scheme to the real facts of the phenomenal world is "throughout hypothetical, and absolute or unconditional mechanical statements concerning real world are therefore unwarrantable. There are no processes in the real world that are certainly entirely mechanical." Even the space, time, and motion of kinetic science are abstractions, and not the space, time, and motion of perceptual experience. The mathematician's space, unlike real space, has neither "here" nor "there," "up" nor "down," "right" nor "left"; his time is the "absolute time" of Newton, unknown to any real experience, which "flows equably"; the movements he calculates are those of mass-particles from one position relative to an imaginary set of axes to another, not movements of bodies from an "here" to a "there". In a word, the *full* description of what "really goes on" would not be given even by a body of actual measurements, and abstract mechanics does not even measure, for you can only measure where there is something concrete and sensible to measure, and a concrete and sensible standard to measure it by; it only calculates. Prof. Ward follows up this exposure of the essentially abstract and hypothetical character of the mechanical scheme by an incisive criticism of the attempts which have sometimes been made to translate its mathematical constants into concrete realities of an unseen order. These attempts, as he shows, for the most part rest on nothing better than baseless assumption. Thus against the dogmatic assertion that "atoms" of one element are all absolutely identical in quality, and all imperishable and unchangeable, an assertion which is in principle simply an identification of an "atom" in the chemist's sense of the word with the mass-particle of abstract kinematics, he argues irresistibly that every statement we can make about the weight or volume of an atom of one of the elements has to be made on the strength of measurements of a sensible mass *in bulk*. The atom itself not being accessible to direct measurement can only be reached by indirect methods; sensible things may be measured or counted, but we can neither measure nor weigh the atom, nor yet count the atoms in a given mass of sensible dimensions; all our theories about the weight or size of the individual atom rest not on measurement but on calculation. Hence, as the ablest specialists are not slow to admit, our assertions about *e.g.* the atomic weights of the elements are exactly on a level with the statistics of economics or anthropology; we may take them as valid statements of an *average*, we must not treat them as necessarily exactly true in any single case. As Prof. Ward puts it, "Englishmen about to marry are not observed to be exclusively interested in women their junior by 2·05 years, though according to the tables this is the difference of age between the Englishman and his wife. . . . I contend then that the most the physicist is entitled to assert is that, if there are molecules, the mass of the mean oxygen 'atom' is sixteen, that of the mean hydrogen 'atom' being taken as unity, and so on for the rest of his table of masses. He is not entitled to say that if there are molecules the mass of every oxygen atom is precisely sixteen times the mass of any hydrogen atom." In a word, we must once more take care not to confuse calculation, which is always abstract and concerned with the hypothetical, with measurement, which is always concrete and concerned with the real world of experience. It is not however till we come to deal with the theories which, like Lord Kelvin's famous hydrokinetic theory of matter, go the full length of regarding all sensible qualities as resulting from displacements in an absolutely homogeneous medium that we see where the consistent identification of the real with the constants of mathematical science must finally lead us. Of the hydrokinetic theories, when treated simply as a basis for mathematical calculation, it would of course be a presumptuous impertinence for the philosopher to speak, but there is no one who has a better right to pass censure on the attempts to identify the supposed "primordial fluid" with "what actually goes on behind what we can see or feel". Against such an identification of reality with a something of which we can only say that it has none of the qualities which characterise any of the realities which we know, powerful arguments have been frequently raised by various philosophers, but Prof. Ward seems to have indicated the real character of the confusion more plainly than any of his predecessors. As he points out (vol. i., p. 132) the properties of the 'primordial fluid' are simply those of space. Indeed one might go a step further; the space from which the fluid of the hydrokinetic theories is indistinguishable is not even the space of concrete perceptual experience. The physical world, as we experience it, contains of course a great deal more than places and movements; it is a realm of qualitative changes which may no doubt be to a certain extent calculated beforehand with the aid of a mechanical scheme, but of which it seems unmeaning to say that they really *are* nothing but mechanical movements. But even the space that we get by abstracting from the qualitative multiplicity of the world of experience, has properties which we must not ascribe to a "primordial fluid". It is made up of places which are all "heres" and "theres," and the movements which take place in it have directions which are "ups" and "downs," "rights" and "lefts". In a homogeneous "primordial fluid" there would be no places but only positions with reference to imaginary axes, no "up" and "down," no "right" or "left". It is thus, as Dr. Ward has seen, apparently only another name for the abstract conceptual space of abstract kinetics. From the general principles of kinetics Prof. Ward proceeds to the examination of the special principle of the Conservation of Energy, and its supposed bearing upon the relation of mind to body as well as upon the question of human freedom. So much mischief has been done in psychology by misunderstandings about the meaning and scope of this principle that a discussion of it from the pen of one who is at once a psychologist and a metaphysician is exceedingly timely. It is to be hoped that Prof. Ward's treatment of the subject will make it impossible for psychologists in the future to repeat the blunder of assuming that the "Conservation of Energy" excludes the action of mind on body, or the possibility of intelligent self-determination. If the principle in question is to be taken as finally establishing "Naturalism," we must be prepared to assume (1) that the principle is ot universal validity, (2) and further, apparently, that all energy is strictly kinetic. Both these assumptions are only too commonly made by psychologists as well as by certain "scientific men" without serious consideration of what they involve. Both are however, as Dr. Ward has little difficulty in showing, entirely unwarranted. We have no right, in the first place, to assume without proof, that there is any such thing as "the physical universe," that is, as a material system rigidly governed by mechanical laws and complete in itself, or that, if there is, the stock of energy it possesses is finite. And, in the second place, we have no right to assume that all energy is kinetic. In the author's language, the law of "Conservation" is essentially a law of exchanges; it tells us merely, that in the various transformations of energy the quantity remains the same; it has nothing to say as to the number of such possible transformations or their specific nature. Once more, we are dealing with calculation, with mathematical constants, not with concrete realities. And again, the systems for which the validity of the law can be established are all finite parts of the real world, and its validity for them is thus no justification for assuming its applicability to the "world" or "physical universe" as a whole. So far it seems impossible to differ from Prof. Ward or to improve on his statement of the case. There are however certain portions of his treatment of the doctrine of Energy which seem fairly open to criticism. Take first of all the question whether the doctrine of Conservation is a "real" or a "formal" postulate of science. On this point Dr. Ward seems to speak with an uncertain voice. At page 175 of volume i. he appears to identify the principle with that of causality and sufficient reason, quoting with qualified approval Mayer's statement of it, *causa æquat effectum*, and speaking of it by implication as "not a logical or a mathematical, but a real principle". At page 214 on the other hand we read that "the conservation of energy is not a law of change, still less a law of qualities . . . it is entirely a quantitative law. . . . This principle may be regarded as primarily and fundamentally logical." The views set forth in these passages certainly appear to be irreconcilable. If the doctrine of Conservation is entirely a quantitative law, it is hard to see how it can be a "real" and not a "mathematical" principle. If it is not a law of change, can it be a form of the principle of causality? At the same time, it seems also evident that the second of these two accounts is the most consistent with the facts of the case as well as with the general spirit of Prof. Ward's philosophy. You can never get from the law of causality to the law of the quantitative identity of energy under its various transformations and transferences without making an illegitimate *saltus*. Though we should admit that the total energy of a system were capable of varying from time to time in dependence upon conditions of a non-physical kind, as Dr. Ward is inclined to believe of the total energy of the physical world, no violence would be done by such a view to the law of causality; and if the doctrine of conservation is to be got out of such a formula as *causa æquat effectum*—a formula, by the way, to which many of us would hesitate to subscribe, it can only be done by understanding the word *æquat* in a very narrow and peculiar sense. We may in fact turn a favourite and perfectly sound argument of Prof. Ward's own against himself on this point. No relation which can be adequately expressed by an equation, he tells us, is a relation of cause and effect. For the sides of an equation are interchangeable, but the order of causation is not reversible.[1] Now the law of "Conservation" is pre-eminently one which can be expressed in the form of an equation; *ergo* the law of Conservation is not, strictly speaking, a causal law. A second difficulty of detail arises in connexion with the doctrine of Energy when we come to Dr. Ward's treatment of the second law of thermodynamics, the law of the dissipation of Energy. It is of course this law of dissipation more than any other single feature of the mechanical scheme which appears most violently in conflict with our desire for our kind and our sense of the worth of human existence. Hence it is natural that a philosopher should be glad to show, if he can, that the evidence for the law is inconclusive.

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[1] Prof. Karl Pearson indeed asserts (*Grammar of Science*, ed. 2, p. 540) that "irreversibility of natural processes is a purely *relative* conception. History goes forward or backward according to the relative motion of the events and their observer." He illustrates this principle by the imaginary case of a "colleague of Clark Maxwell's demon," who is supposed to travel away from the earth with a velocity greater than that of light, and consequently to see the panorama of human history in what is, relative to ourselves, a backward order. The Professor apparently overlooks an important exception to this reversibility. Even for his imaginary "demon" one process, the transition from volition to act in his own case, would always proceed in one direction, from present to future, and would thus be strictly irreversible. The visible events of his own past might unroll themselves once more before his eyes in a reverse order, but his inward mental life would still be proceeding in the inevitable order from idea or wish to act; your own life, at anyrate, cannot be lived backwards except in Wonderland.

In the main Prof. Ward seems to have discharged this part of his task satisfactorily. There can be no reply to the contention that the universal transformation of the world's energy into a useless kinetic form depends on two conditions, (1) that the sum total of the energy in the world is fixed and finite, and (2) that there are no agencies at work within the world by which the "downhill tendency" of energy to assume a useless form can be reversed. Now we have already seen that the first assumption is an arbitrary one, deriving no support from our knowledge of real fact; and further, in the selective action characteristic of mind we certainly seem to have a power working in a direction contrary to the "downhill tendency" of unguided energy. So that the suggestion that the second law of thermodynamics may prove to be invalid for living organisms is deserving of the most serious consideration. But when Prof. Ward adds to these weighty arguments the further contention, "If the energy of the world is a finite quantity and the second law of thermodynamics valid, how is it that the said degradation and consequent icy stillness are not the fact? On these assumptions the universe can only last a finite time, and the ratio of finite time to infinite duration is strictly infinitesimal. The chances then are infinity to one in favour of the universe being at any given moment played out," he seems to fall into a paralogism. Supposing the energy of the universe to be a finite quantity, the chances are of course infinity to one against our being able to say precisely what that quantity is, or when it will be "played out"; but the chance of the quantity being sufficient to carry on the universe up to the present is, for all I can see, at least as great as the chance against. The number of finite quantities greater than any assigned finite quantity is surely indefinite. Again it is not always clear what Prof. Ward regards as the alternative to belief in a "physical universe" of finite energy. On the whole he seems inclined to Lotze's view that the total energy of the world may vary indefinitely according to its "needs," a view which is of course tantamount to denying that the physical order is a "universe" at all, but is quite consistent with the belief that the total energy of that order *at any given time* is a finite quantity. At other times Prof. Ward uses language which would suggest rather that the "energy of the universe" may at a given moment be actually infinite. It may perhaps be owing to some defect in metaphysical insight, but I must confess that to me it appears by no means indifferent which of these alternatives should be preferred. The former has at least nothing, except presumptions which Prof. Ward has shown to be baseless, against it; the latter lies open to all the weighty arguments of Aristotle against an *infinitum actu*, arguments which no amount of harping on the other side of the Kantian antinomies seems sufficient to dispel.

I have spoken at such length of the first division of Dr. Ward's polemic against Naturalism that I have little space left in which to deal with his criticism of those two great props of the mechanical philosophy, the doctrine of Evolution and the hypothesis of Psychophysical Parallelism. There is the less need for me to speak of the former that Mr. Spencer may almost be cited himself as *confitens reus.* When a philosopher whose system has been exposed to so damaging an attack on its characteristic principles and method can find no better retort than a complaint against the unauthorised use of capital letters in quotation from his works, one may fairly say that the game is up. In justice to Mr. Spencer however it must be said that Prof. Ward's pleasantries at his expense are often heavy as well as pugnacious, and that the real force of his indictment against the Synthetic Philosophy would be more evident if he had abstained more from indulging a tendency to banter. How damaging the indictment is will readily be perceived by any one who will read carefully the extraordinary "proof" given in "First Principles" of the doctrine that an absolutely homogeneous physical universe *must,* in virtue of its homogeneity, burst out into a multitude of local differential movements, and then compare Mr. Spencer's text with Prof. Ward's incisive but well-deserved comments.

When we reach the discussion of the favourite doctrine of "Parallelism" with which Prof. Ward's second volume opens, we find ourselves passing at last from criticism of the methods and assumptions of natural science to epistemology. Hence it is natural that the author's special views on the metaphysical problems connected with the notions of "causality," "activity," "determination" and "freedom" should make themselves specially felt in this part of his work. It is on these points rather than on the minor details of the argumentation in volume i., that some students whose general sympathy is with the attack on Naturalism will feel bound to part company with the Professor. In the argument by which he shows the methodological absurdity of the doctrine of two parallel but independent series there is, indeed, little from which any Idealist would care to dissent. In fact, when once the mind has been disabused of the fancy that "science" has somehow proved from the doctrine of "Conservation" the impossibility of a mental state influencing the physical series, there seems to be no further intelligible reason for maintaining a doctrine which cannot even be formulated without contradiction. It might, however, have been well to recognise the practical convenience of using the concept of "parallelism" as a working hypothesis for purposes of psychophysical investigation. Absurd as the doctrine is when put forth as the final truth about the relation of mind to body, it is still practically convenient, as far as possible, to go in psychophysics on the principle of looking for the antecedents of nervous changes in nervous changes and for those of mental changes in mental changes. Of course, like all "working hypotheses," this hypothesis cannot be carried out without a certain amount of conscious fiction. We may, for instance, find that it leads us to assume "unconscious mental states" as the correlates of certain nervous processes. Yet, provided that the fictions answer their purpose, which is to facilitate the description of the various nervous and mental processes taking place in the sentient organism, their usefulness would seem to justify our employment of them. I do not for a moment imagine that Dr. Ward would deny this; only it could have been wished, for the sake of his readers, that he had made it clearer that it is "Parallelism" as a metaphysical doctrine, not "Parallelism" as a convenient working hypothesis within a certain restricted sphere, which sound philosophy has to reject. There is another, and a more important, question of philosophical first principles, which is suggested by this section of the Gifford Lectures. With the rejection of the metaphysical doctrine of "Parallelism" disappears the whole argument for the strictly mechanical determination of the course of the universe. If mind can be thought of as an originator of changes in the physical order there is at once an end of all possibility of calculating the course of the world from purely kinetical data; we are finally delivered from that "mechanical prediction" of human action in which certain among us still believe, and of which Prof. Ward truly says that it would be "incompatible with freedom". But does determinism as a philosophical theory stand or fall with determination by purely mechanical antecedents? From what Prof. Ward says at page 281 of volume ii. on the relation of freedom and contingency, it appears that he would answer this question in the affirmative. Is it not however conceivable that both idealism and determinism may be the truth? In that case the course of the world would be strictly determined, only the "determinants," so to speak, would not be masses and accelerations; prediction would be possible, but not mechanical prediction. Some such view seems to have been actually entertained by Plato, who held with Prof. Ward that mind is the source of movement, and at the same time that the behaviour of my mind or yours is determined by heredity and social environment. Such a view, again, would give us all the freedom that we seem to care about; prediction of our conduct, as such, appears indeed to cause neither annoyance nor alarm, unless it is avowedly based upon data from which the psychical quality of our own and our ancestors' selves has been excluded, *i.e.* unless it is "*mechanical* prediction". It would be interesting to have Prof. Ward's opinion of Spinoza's definition of the human mind as *aeternus cogitandi modus qui ab alio aeterno cogitandi modo determinatur et hic iterum ab alio, et sic in infinitum.*

In the examination and refutation of dualism which follows on the rejection of the doctrine of "Parallelism" Prof. Ward is quite at his best, and it is a question whether this particular section is not the most thoroughly original part of the whole book. To the present writer at least the demonstration that immediate experience knows nothing of the dualism of "subjective states" on the one hand and "objects" on the other, and that the whole distinction with its far-reaching consequence has arisen from the "intra-subjective" intercourse of man and man by a sheer confusion seems to admit of no rejoinder. There are only two points where one might perhaps have desired fuller explanation or discussion. While fully agreeing with Prof. Ward's contention that individual experience exhibits not a dualism but a duality in unity of subject and object, may not one demur to his rather contemptuous rejection of the "presentationist" view that even this duality is psychologically an outgrowth of a simpler state of things (vol. ii. pp. 122-123). What I mean is this. We seem only to be conscious of the distinction between subject and object in an experience when the *content* of the experience exhibits some one element of quality which is, in virtue of its interest, distinguished from the accompanying mass of sensation and feeling; where this distinction within the content of experience fails to make itself felt, as for instance, when a persistent pain seems of itself to abolish consciousness of everything else, or when we pass in listening to music into a state of reverie in which consciousness for the time being seems to consist of nothing but the mere succession of tones, do we not seem to have reached a stage at which there is for immediate experience neither subject nor object, but only psychical content? If the existence of such selfless states be once admitted, it would be easy to see how the mere fact that different elements in the continuum of consciousness change with varying rapidity would lead to the discrimination of a relatively permanent mass of organic sensation and accompanying feeling-tone from the rapidly varying perceptual contents which from time to time occupy the "focus" of consciousness. Hence it might perhaps be doubted whether the "presentationist" view of the growth of the subject-object relation out of simpler and less differentiated experiences does not deserve rather more courteous treatment than Prof. Ward accords to it. The second point to which I have referred is a metaphysical one of some importance. After explaining the way in which our conception of the "objective world," as it is for science arises from the attempt to weld into one harmonious system the contents of my own experience and those of other human experiences, Prof. Ward goes on to raise the further question, to what experience is this "objective" world then an object? The answer is, of course, the "objective" world, as we think of it in our science, though independent of the individual's experience is dependent on and an object to *Bewusstsein überhaupt* "universal experience". So far, so good; but there seems to remain a still more important question upon which Prof. Ward, as I understand him, has pronounced no judgment. Is this "universal experience" a reality, in the same sense in which individual experience is a reality, or is it a mere "regulative ideal," useful for methodological purposes in the construction of a scientific scheme, but conceivably without any counterpart in reality? In other words is the world as it would be for a completed science the same thing as the world as it conceivably is for a consciousness to which the whole of experience is immediately present? Or yet again, can scientific truth and real fact ever be ultimately one and the same thing? This question seems of the highest philosophical importance, because if we answer it in the negative, we shall be driven to face the possibility that the whole of our conceptual scheme, including the categories of activity and casuality to which Prof. Ward is so deeply attached, may turn out to be mere "working hypothesis," convenient in the special sciences but incapable of being intelligibly predicated of experienced reality as a whole. And indeed I am not sure that there is not some case for adopting this view of the category of activity. In the penultimate lecture of the series Prof. Ward argues strongly against Mr. Bradley for the ultimate validity of the concept of "activity" as an essential characteristic of mind. His arguments, however, do not seem to be conclusive and even perhaps betray some confusion as to the issue at stake. The question, I take it, is not whether we cannot be said to be more "active" in some mental states than in others, and thus whether "activity" may not be a valid "working hypothesis" in psychology, but whether "activity" can be made into an ultimate metaphysical category without self-contradiction. Only those who are prepared to maintain that psychology alone among the sciences can do its work without convenient but self-contradictory working hypotheses are entitled to treat these two questions as one. Now it is by no means clear to which of these two very different issues Prof. Ward is addressing himself in his polemic. When he tells us that the question is not one of "conceivability but of fact" (p. 243) he seems to be dealing with activity as a working hypothesis for psychology, for of course all questions as to the *ultimate* applicability of our categories to the fundamental reality of the universe *are* questions of conceivability. On the other hand, the tone of the pages which immediately follow, as well as of all the references to causality in the second volume, seem to indicate that Prof. Ward means to assert that "activity" is something more than a convenient "working hypothesis," that it is predicable with final and ultimate truth of the mind, which is, for him, the ultimate reality. If this is his meaning, I would suggest the following difficulty. Activity—in the sense in which we use the word of ourselves—always seems to imply an environment capable of resisting our demands upon it. We complain of being "passive" in the presence of nature and natural forces when we cannot bend them to our purposes but have to adapt ourselves to them; we say we are "active" on the other hand just in so far as we force the environment to mould itself in accordance with our subjective ends. Thus our own consciousness of activity seems to be conditioned partly by a physical environment which seems capable of resisting our purposes, partly by a social environment of other minds with plans of their own which conflict with ours. Now, if idealism be true, part at least of this assumption is a proved illusion; the only environment in relation to which we can be either active or passive will be a "social" environment of minds. Further, if the real world of minds should prove to be an anarchic realm of independent and conflicting purposes, both activity and passivity would no doubt be ultimate characteristics of it. But if, on the other hand, it is an orderly system manifesting the guidance of a single intelligence, as Prof. Ward seems to believe, then there are really *no* conflicting purposes and no real failures. In fact, there is no environment for an ultimate and universal mind to act against, and thus, if "God" is really all and mechanism nothing, "God" can be neither active nor passive. But, if the "consciousness of activity" can only arise from an illusory belief in an antagonism that does not really exist, is not activity after all, what Mr. Bradley calls it, "appearance" and not reality? This difficulty is at any rate not to be met by the remark that "those who have such compunction about admitting mental activity, regard mental passivity as transparent fact; and yet a very little reflexion might convince them that passivity involves activity". There may be persons so thoughtless as to make this fatal admission, but it is not against such criticism as theirs that the category of activity stands in need of defence. The question is not whether mind is ultimately active or ultimately passive, but whether "activity," in the sense in which we want it as a working concept in psychology, the sense in which we speak of being sometimes more, sometimes less, active, can be predicated of any ultimate reality without self-contradiction. But this is precisely one of those questions which idealists of the Leibnitz-Lotze type and those of us who have learned in another school have still to debate between ourselves.

A. E. TAYLOR.

The World and the Individual. First Series. "The Four Historical Conceptions of Being." By Josiah Royce, Ph.D., Professor of the History of Philosophy in Harvard University (Aberdeen Gifford Lectures). New York: Macmillan, 1900. Pp. xiv., 588.

DR. ROYCE has given us a treatise of the greatest value and interest. His lectures form one of the most thoughtful and original presentations of an Idealistic Philosophy that have appeared since the tide of opinion began to flow again towards Idealism. His system may be considered as based on Hegel, and as profoundly influenced by Mr. Bradley, but there is much in it which is distinctively his own, and which cannot fail to profit an attentive reader.

Dr. Royce has the courage of his great master. "The central problem of our discussion," he announces in the first lecture, "will be the question: What is reality?" (p. 6). "Philosophy," he remarks, not only in Hegel's spirit, but very much in his manner, "necessarily involves a good deal of courage; but so does life in general" (p. 7). "As for the fine-drawn distinctions and airy abstractions, no distinction is ever too subtle for you, at the moment when it occurs to you to make that distinction for yourself, and not merely to hear that somebody else has made it. And no abstraction seems to you too airy in the hour when you rise upon your own wings to the region where just that abstraction happens to be an element in the concrete fulness of your intellectual life" (p. 8). With these words we get the key-note of the book.

"I am one of those," the author proceeds "who hold that when you ask the question: What is an Idea? and: How can Ideas stand in any true relation to Reality? you attack the world-knot in the way that promises most for the untying of its meshes" (p. 16). Now ideas have two aspects. "An idea is any state of mind or complex of states, that, when present, is consciously viewed as the relatively completed embodiment, and therefore already as the partial fulfilment of a purpose" (p. 24). This purpose Dr. Royce calls the Internal Meaning of the Idea. But ideas "at least appear to have that other sort of meaning, that reference beyond themselves to objects, that cognitive relation to outer facts, that attempted correspondence with outer facts, which many accounts of our ideas regard as their primary, inexplicable, and ultimate character. I call this second, and, for me, still problematic and derived aspect of the nature of ideas, their apparently External Meaning" (p. 26).

The problem of the nature of Being will then take this form, "How is the internal meaning of ideas consistent with their apparently external meaning?" The solution of this may be found, we are told, "in the consideration that unless ideas first voluntarily bind themselves to a given task, and so, by their internal purpose, already commit themselves to a certain selection of its object, they are neither true nor false, . . . that despite the seemingly hopeless contrast between internal and external meaning, ideas really possess truth or falsity only by virtue of their own selection of their own task as ideas" (p. 32).

In the second lecture, we are told that there are four fundamental conceptions of Reality. The first is the Realist conception. For it, "that is real which is simply *Independent* of the mere ideas that relate or that may relate to it". "For the second" or Mystical "conception, that is real which is absolutely and finally *Immediate*, so that when it is found, *i.e.*, felt, it altogether ends any effort at ideal definition, and in this sense *satisfies* ideas as well as constitutes the fact." The third is the typical view of modern Critical Rationalism, for which "that is real which is purely and simply Valid or True." "But for the fourth conception, that is real which finally presents in a completed experience the whole meaning of a System of Ideas." This is called the Synthetic conception (p. 61).

The remainder of the second lecture is taken up with an exposition of Realism and Mysticism which is admirable both as metaphysics and as literature. The contrast, as Dr. Royce draws it, is decidedly to the disadvantage of Realism, which, we are told, "has never been held wholly clear and apart from other conceptions of reality by any first-rate thinker" (p. 70). Space permits only of one quotation, "The realist loves to talk of 'wholesome' belief in reality and to hurl pathological epithets at opponents. It is thus often amusing to find the same thinker who declares that reality is quite independent of all merely human or mental interests, in the next breath offering as proof of his thesis the practical and interesting 'wholesomeness' of this very conviction" (p. 75).

Mysticism gets much more favourable treatment. Its essence is defined as follows: "The true historical importance of Mysticism lies not in the subject to which it applied the predicate real, but in the view it holds of the fundamental nature of that very ontological predicate itself. No matter what subject the mystic seems to call real. That might be from your point of view any subject you please; yourself, or God, or the wall. The interest of Mysticism lies wholly in the predicate. Mysticism consists in asserting that to be means, simply and wholly, to be *immediate*, as what we call pure colour, pure sound, pure emotion, are already in us partly and imperfectly immediate. . . . That . . . the mystic is a very abstract sort of person, I will admit. But he is usually a keen thinker. Only he uses his thinking sceptically, to make naught of other thinkers. He gets his reality not by thinking, but by consulting the data of experience. He is not stupid. And he is trying very skilfully to be a pure empiricist. Indeed, I should maintain that the mystics are the only thorough-going empiricists in the history of philosophy" (pp. 80, 81).

In the third lecture Dr. Royce discusses Realism, and rejects it on grounds not substantially different from those which have been put forward by other idealists. In the fourth lecture Mysticism is further discussed. The example selected for illustration of the principle is the Mysticism of the Upanisheds. Dr. Royce also quotes Browning's "Last Ride Together," in which he finds an "ontology in essence one with" that of the mediæval and Hindoo mystics. This seems scarcely fair. Browning's ideal here, as elsewhere, is no doubt something that transcends finite experience. In this respect he is a mystic, in the company of Hegel, and also, I imagine, of Dr. Royce. But his ideal is never in a merely negative relation to the finite.

And it is in this merely negative relation to the finite that Dr. Royce finds the fatal defect of the Mysticism which he discusses here. Both Realism and Mysticism he says "define in the end nothing whatever. Only the realist does not intend this result, while the mystic often seems to glory in it. He thus glories, as we have seen, because in fact he is defining a very fascinating and a highly conscious contrast-effect—a contrast-effect that, far from being itself anything absolute, or actually unknown and ineffable, is a constantly present character of our human type of finite consciousness. As a fact, our thinking is a search for a goal that is conceived at once as rationally satisfying and as theoretically true. And this goal we conceive as real precisely in so far as we consciously pursue it, and mean something by the pursuit. But now this goal, since it is not present to us, in our finite form of consciousness, is first conceived by contrast with the process of this pursuit. So far indeed we conceive it negatively" (p. 180). . . . "But when the mystic, defining his goal wholly in negative terms, lays stress upon the contrast as simply absolute, he finds that so far his Absolute is defined as nothing but the absence of finitude, and so as apparently equivalent to nothing at all, since all definite contents are for us so far finite, and since the absence of finitude is for us the absence of contents" (p. 181).

Mysticism then must be amended by a recognition that our finite life is no more mere illusion than it is absolute reality. It is too unreal to do more than lead us to something beyond itself, but if it can do even this, it cannot be absolutely unreal.

The fifth lecture gives us the transition to the Third Conception of Reality. If Realism, while giving up the hopeless task of defining the Real as absolutely independent of knowledge, wishes still to emphasise the fact that it is outside my particular knowledge, and that my ideas must conform to it, it is led to the view that the Real is that "which, if known, is found giving to ideas their validity, that to which ideas ought to correspond" (p. 201). And, again, the mystic only reached his conception of the Absolute by setting aside our finite experiences as contradictory, and not conforming to the ideal of knowledge. It would seem to follow then that true Being resides in the Validity of Ideas.

The next lecture begins by tracing the conception of Being as Validity in the philosophies of Aristotle, Aquinas and Kant. The question then arises: "What is a valid or a determinately possible experience at the moment when it is supposed to be only possible? What is a valid truth at the moment when no one verifies its validity?" (p. 260). Actual experience is always individual. But *merely* valid truths appear as mere universals. Can this Third Conception recognise and accept this difference?

The seventh lecture considers "the Internal and External meaning of Ideas," and in it Dr. Royce's own views begin to come to the front. To begin with, he takes the definition of Truth as "that about which we judge". All judgments, he holds, assert something about a real world. The assertion of hypothetical judgments is a negative one. "In general, the judgment, 'If A is B, C is D,' can be interpreted as meaning that there are, in the world of valid objects, no real cases where, at once, A is B, while at the same time C is nevertheless not D"

(p. 274). It follows from this that universal judgments can never fully attain the end with which they set out. Taken by themselves, they can only tell us "what external Reality is not". Now what we want to know is what external Reality *is*. But our negative judgments could only give us this if they exhausted all possible alternatives. And this is a task which is "not only endless, but hopeless" (p. 279).

In particular judgments, indeed, we get positive assertions about Reality. But then no particular judgments will ever enable us to determine an individual as individual. We can never, by means of them, know an object so that we can know it to be absolutely unique in the universe. That is, we cannot determine it completely. But "the Other that we seek is that which, if found, would *determine our ideas to their final truth*. Now only what is finally determinate can, in its turn, determine. . . . Whoever should try, as, in fact, our Third Conception of Being seems to try, to define the world of Being in terms exclusive of individuality, seems forced to say, 'The final fact is that there is no individual fact, or, in other words, that there is no unique Being at all, but only a type; so that the Being with which our thoughts are to correspond does not determine the "mere ideas" to any single and unique correspondence with itself, but leaves them finally indeterminate'. But is the *Veritas* that is thus left us any *Veritas* at all? Is not the very expression used self-contradictory? Can the absence of finality be the only final fact?" (pp. 295, 296).

The point raised in the questions with which this extract concludes would have repaid, I venture to suggest, further treatment. It has been held, by thinkers who cannot lightly be passed over, that universal and particular judgments, in all their relative indefiniteness, are, nevertheless, the ultimate truth. A refutation of this view seems necessary, if Dr. Royce's position is to be maintained—and no one is better qualified than Dr. Royce to give one.

We now pass to consider Truth as the Correspondence between any Idea and its Object. This correspondence, as the author points out with admirable clearness, depends on the purpose which we entertain in using the idea. "The idea is true if it possesses the sort of correspondence to its object that the idea itself wants to possess. Unless that kind of identity in inner structure between idea and object can be found which the specific purpose embodied in a given idea demands the idea is false" (p. 306). Again "the idea intends to attain this correspondence to some particular object—not to any object you please, not to whatever happens to correspond to the ideal construction in question, but to a determined object. The determination of what object is meant, is, therefore, certainly again due, in one aspect, to the internal meaning of the idea. No one else can determine for me what object I mean by my idea.

"But hereupon we seem to face, indeed, a fatal difficulty. . . . And this is that, if the idea predetermines what object it selects as the one that it means, just as it predetermines what sort of correspondence it intends to have to this object, the idea, nevertheless, does not predetermine whether its object is such that the idea, if finite, shall succeed in attaining entire agreement with the object. Otherwise truth would be mere tautology, error would be excluded in advance, and it would be useless even to talk of an object external in any sense as the idea" (pp. 319, 320).

What is the solution? Dr. Royce gives the following, which is in harmony with the result attained from the first definition. "The idea so selects the object, that, if the idea has a perfectly definite meaning and truth at all, this object is to be a precisely determinate object, *such that no other object could take its place as the object of this idea.* And in spite of the fact that the object is such solely by the will of the idea, the idea undertakes submissively to be either true or false when compared with that object" (p. 327). But with this we have reached the fourth and final Conception of Being, "that What is, or what is real, is as such the complete embodiment, in individual form and in final fulfilment, of the internal meaning of finite ideas" (p. 339).

This Fourth Conception is then developed, and defended against various misconceptions. After this, in the ninth lecture, we pass to the discussion of Universality and Unity. This begins, if I understand it rightly, with an attempt to identify the ultimately true and the ultimately desirable, which does not seem to follow logically from what has preceded it. In every case in which our ideas are not expressed, we are told, "the reality, which shall positively refuse it expression, is *ipso facto* the reality to which the idea itself appeals, and is not independent of this appeal. For you are not put in the wrong by a reality to which you have made no reference; and error is possible only concerning objects that we actually mean as our own objects. The object that is to defeat my partial and fragmentary will is then *ipso facto* my whole will, my final purpose, my total meaning determinately and definitely expressed" (p. 389). And again, "My will, as it is now transiently embodied, can fail in any partial way of realisation, but only because I now fail to be wholly aware of my own will. . . . However far I wander in the wildernesses of my temporal experience, the eternal fulfilment of my own life encompasses me. I escape not from the meshes of the net of my own will" (p. 390).

This seems too short a road to a final harmony. No doubt every act of knowledge is a fulfilment of the will, for we cannot know, as Dr. Royce points out, without willing to know. And every volition is an experience of reality, for, when we will, our volition is part of the real. Thus nothing real could be absolutely alien to our will, and no ideal could be absolutely void of reality. But, after all, the will to know is only an element in the whole system of volition. And it is conceivable that this element might be satisfied without the others. We might know the universe, *e.g.*, and know it to refuse satisfaction to our demands for beauty, or for love. In that case it would give us something we had willed—namely, knowledge—but not everything, nor, perhaps, what we regarded as highest. In such a case as this "the eternal fulfilment of my own life" would not be realised.

Such a contingency could be disproved by a system which worked out in comparative detail the ultimate nature of the real and of the good, and which would then show, of these independently attained results, that in fact they coincided. I do not mean to assert that the identity, if attained, would be a mere brute conjunction. On the contrary, it would doubtless be a supreme unity compared to which both reality and goodness would be mere abstractions. But it remains true that the good and the real can only be united through a third term. It is impossible to prove that the ultimately real is *as such* the ultimately good, or that the ultimately good is *as such* the ultimately real.

Dr. Royce now passes on to the personality of the Absolute "In the world as we define it, there can exist no fact except as a known fact, as a fact present in some consciousness, namely, precisely to the consciousness that fulfils the whole meaning of whoever asserts that this fact is real. In view of this essential feature of our finite situation as thinkers, it follows at once that the whole world of truth and being must exist only as present, in all its variety, its wealth, its relationships, its entire constitution, to the unity of a single consciousness, which includes both our own and all finite conscious meanings in one final eternally present insight" (p. 397).

It may, perhaps, be granted that we cannot conceive reality except as conscious experience, and that there is much which we call real of which it is in the highest degree improbable that any finite being is at present conscious. It is by no means as certain, however, that there is anything which we should at present call real of which no finite being ever was or ever will be conscious. Of course a consciousness which has been or will be is, so far, a consciousness which now is not. And if the existence of finite selves was merely temporal, we should have to postulate the infinite consciousness which is perpetually conscious of all reality. But Dr. Royce would not, I suppose, deny that a finite self had an eternal significance. And surely this leaves another alternative open—that we call Being real of which no finite self is at present conscious because we find in its future or past consciousness of it *sub specie temporis*, the sign of a timeless consciousness of it *sub specie æternitatis*.

Of the rest of the lecture it is only possible to mention in passing the well-balanced exposition which is given of the extent to which we are justified in interpreting the universe in terms of our own consciousness. Dr. Royce steers a middle course between Mr.

Bradley on the one hand, and Hegel's practice on the other. (Hegel's theory might not impossibly be found in the middle with Dr. Royce.) The result—not to be either limited to humanity nor alien to it—is brought out with great clearness.

The last lecture is entitled Individuality and Freedom. That Individuality does not suffer in such a system is plain. The whole aim of knowledge, it tells us, is to find the individual. And the close unity of the whole, so far from destroying the individuality of the parts, is essential to it. With regard to freedom, the author points out that causal determination can never be the last word about anything individual. "When we have assumed, as we have now done, that every moment of every finite consciousness has some unique character, and when we have asserted, as we have also done, that in our rational life our momentary will and its finite expression belong to this very unique aspect of our finite life, we have indeed found, in our finite will, an aspect which *no* causation could even by any possibility explain. For whatever else causality may be, it implies the explanation of facts by their general character, and by their connexion with other facts. Whatever is unique, is as such not causally explicable. The individual as such is never the mere result of law. In consequence, the causal explanation of an object never defines the individual and unique characters as such, but always its general characters. Consequently, *if* the will and the expression of that will in any moment of our finite life possess characters, namely, precisely those individual and uniquely significant characters which no causal explanation can predetermine, then such acts of will, as significant expressions of purpose in our life, constitute precisely what ethical common sense has always meant by free acts" (p. 467). This view is one of great importance. It may be doubted whether "ethical common sense" would accept a life as free which was "a stage or case of the expression of the divine purpose at a given point of time" (p. 464). But then it might also be doubted if it has a coherent conception of freedom at all.

The lectures are followed by a Supplementary Essay on The One, The Many, and the Infinite, which is mainly a criticism of Mr. Bradley. Dr. Royce admits that Mr. Bradley "has shown that every effort to bring to unity the manifoldness of our world involves us in what he himself often calls an 'infinite process'" (p. 474). But does this involve that all our efforts must be considered to have failed, and that the way in which the manifold is really unified is, for us, a mystery? Is a real infinite process an impossibility?

At any rate, we come across such processes in mathematics, where they "lie at the basis of highly and very positively significant researches" (p. 499). And, outside the reach of mathematics, there are important cases where "a single purpose, definable as One, demands for its realisation a multitude of particulars which could not be a limited multitude without involving the direct defeat of the purpose itself" (p. 501). For example if, on part of the surface of England, an absolutely accurate map of England was constructed, such a map would contain a map of itself, since it *is* part of the surface of England, and it represents all of the surface of England, itself included. But this second map would also have to contain a map of itself, and so on in an infinite series (p. 505). Now, whether we believe such a map to be possible, or whether we follow Mr. Bradley in rejecting it as impossible, "our faith, or a doubt, would equally involve seeing that the *one* plan of mapping in question necessarily implies just this infinite *variety* of internal constitution. We should, moreover, see how and why the one and the infinitely many are here, at least within thought's reach, conceptually linked" (p. 507).

Now such a system, says Dr. Royce, quoting Dedekind, is found in my own realm of thoughts (p. 511). For whenever I have a thought, I can also think that I have it. And then I can also think that I have this second reflective thought, and so on without end. And any theory which holds the Absolute to be self-representative involves such an infinite series. For the representation falls within the Absolute, and must be represented. And so must this second representation, and so on *ad infinitum.*

The Essay ends with a consideration of the arguments for holding that such an infinite series could not be real. It is maintained that an infinite series which is involved in the unity of a single purpose, can be a true individual, and may therefore be real.

It would be impossible within the limits of a review to adequately criticise this theory, or to raise a further question—on which the practical importance of the theory depends. Granted that the Absolute is a harmony, is it ultimately a harmony of self-representation, or is there some more adequate form? Something would have to be said on this point, but here I must content myself with closing my account of a most valuable and interesting book.

The second series of lectures is promised within a year. It is to contain the more detailed application of the results here reached to problems that directly concern religion.

J. ELLIS MCTAGGART.

VII.—NEW BOOKS.

On Spinozistic Immortality. By GEORGE STUART FULLERTON, Professor of Intellectual and Moral Philosophy in the University of Pennsylvania. Publications of the University of Pennsylvania; No. 2 of the 'Series in Philosophy'. Philadelphia, 1899. Pp. v., 154. Price 4s.

THE main object of this monograph is to examine the "Eternity" which Spinoza ascribes to the human mind. "I have endeavoured," the author says, "to set forth as clearly as possible Spinoza's doctrine of existences and essences and of the passage of the soul from the world of perishable things to that of things imperishable and eternal" (Preface). Part iv. contains a discussion of "the religious element in Spinoza".

In spite of much that is interesting—*e.g.*, the careful analysis in part iii. of Spinoza's use of the terms "Essence" and "Eternity"—I cannot think that Prof. Fullerton is very successful in his interpretation.

The fundamental mistake of the book, as it seems to me, is that Spinoza is not taken *literally* enough. Thus. when Spinoza (in the *Tractatus de Intellectus emendatione*) describes the infinite being as "omne esse, præter quod nullum datur esse," our author understands this as "the sum-total of being" (p. 37), "the sum of being" (p. 41), "the sum-total of existing things" (p. 128). Consequently, one is not surprised to find him assuming that (*for Spinoza*) the "concrete reality" is the world of actually existent finite things—the everyday world of the uncritical consciousness: that *for Spinoza* (*cf. e.g.* p. 23) "the corporeal world consists of a limitless congeries of finite individual things," and that "each thing in the corporeal world has its corresponding idea in the world of thought". In other words, the 'bodies' and 'minds,' the "things" and "individuals" of the uncritical ("Imaginative") consciousness, are supposed to be *for Spinoza's Metaphysics* self-dependent realities.

Starting from such an assumption, Prof. Fullerton naturally regards Spinoza's "God," "Extension" and "Thought" as abstracted from the concrete things, bodies and ideas. They are "abstract universals," which Spinoza—thorough-paced "Realist" that he is (p. 33)—inconsistently individualises, treats as real or concrete (*cf. e.g.* pp. 38 ff., 52).

It is not worth while to labour this point, *For Spinoza as I understand him*, 'God,' the 'Universe,' the 'Absolute'—or whatever term may be preferred—is the only completely real thing, the only concrete, individual and self-dependent reality. Finite things—so-called 'individual' men, bodies and minds—are, *quâ* finite and *quâ* distinct things, in varying degrees unreal: whilst, so far as they are real, they are states or modes of the one Individual, God. *For Spinoza as Prof. Fullerton understands him* these 'finite things' are "concrete realities," all equally and fully real. And the Attributes and Substance are universal concepts abstracted from these real things. which yet—by a confusion characteristic of Realists—Spinoza regards as somehow 'real' and therefore 'individual'.

A critic who approaches Spinoza in this spirit—however careful his analysis may be in detail—is bound to misunderstand him. Thus—to take only one instance—the whole of Spinoza's *Theory of Knowledge* (*cf.* the outline criticism of its principles, pp. 19, 20) becomes confusion for Prof. Fullerton, simply because he treats the human mind as a self-dependent individual: whilst Spinoza regards it as a mode of God's thinking, which is always to some extent dependent upon the other thoughts which form its context—*i.e.* always, *quâ* individual mind, *to some extent* (more or less) unreal. Curiously enough, Prof. Fullerton refers to *Ethics*, ii., 17 Schol., as a passage, in which Spinoza "explicitly recognises" that "he uses the word 'idea' in two distinct senses," and shows by speaking "hesitatingly and indefinitely" that he "never clearly worked out the implications of his own assumptions". Yet this very passage, if read attentively in connexion with Spinoza's account of *Imaginatio*, disposes of the theory of an ambiguity in his use of the term 'idea'.

We shall all agree (*cf.* Preface and § 25) that it is wrong to read modern Philosophy into Spinoza—except in so far as it is to be found there already. But then neither ought the Logic of Abstract Identity to be thrust upon Spinoza (*cf.* § 8 and *passim*), unless Prof. Fullerton can produce some evidence to show that it is Spinoza's as well as his own. Nor would students of Spinoza desire—any more than Prof. Fullerton (§ 28)—to "confuse his philosophical doctrine . . . with other beliefs" which he may have held and "which are either disconnected with or even contradictory to the doctrine in question". But I hardly think they will readily accept Prof. Fullerton's exposition as Spinoza's "philosophical doctrine".

With regard to part iv., the author at first (p. 116) proposes to include under the word 'religious' "those things that most of my readers, familiar as they are with the history of theological doctrine and philosophical speculation, will on reflexion be inclined to include under it". This is bewildering: but at page 129 we learn that the author thinks that "the history of human thought justifies" him "in refusing to apply" the word 'religious' "to any philosophy, which, while retaining, perhaps, the word God, has divested the corresponding conception of every shred of anthropomorphic reference". Surely, if that is so, there was no need to waste space in proving that the Spinozistic conception of God is not "religious". If to be 'religious' involves what Prof. Fullerton says, it is an unjust slur on Spinoza's honesty to accuse him of being 'religious' *himself*, and there was no need formally to acquit his system of the charge (p. 153).

The translation in the book is on the whole accurate and good: but I have noticed two slips. "Mentis oculi . . . sunt ipsæ demonstrationes" does not mean "the eyes of the mind . . . are themselves proofs" (p. 76); nor is "they could not help finding a few harmful things" an exact rendering of "non pauca reperire debuerunt incommoda" (p. 132).

HAROLD H. JOACHIM.

A Primer of Psychology. By EDWARD BRADFORD TITCHENER. New York: The Macmillan Company; London: Macmillan & Co., Ltd., 1898. Pp. xvi., 314.

To write a primer of Psychology is an arduous undertaking, and to write it in such a way as to give general satisfaction to psychologists is probably impossible. The public for whom such a work is intended require an exposition which shall be throughout compact, clear-cut, and transparent. To introduce reservations and argumentative discussions is to imperil success so far as they are concerned. On the other hand, Psychology is at present in a transitional state, and this makes it difficult for the psychologist to reach a compact and clear-cut outline of his subject without some degree of mental friction. He cannot help disagreeing more or less even on important questions, and he can scarcely help feeling a certain amount of irritation at seeing the law laid down on such points in the dogmatic way which is necessary in a primer.

I, for instance, feel a disposition to quarrel with Prof. Titchener's procedure in many respects. When he impresses on the mind of the learner the view that the mind is a "sum of processes" I recognise of course that he is relatively justified as against certain other views which we both hold to be erroneous. But I feel strongly that the statement ought to be modified and supplemented. I myself should have included in the definition not only actual conscious processes but the whole system of permanent possibilities of conscious process, which are called mental capacities, powers, dispositions, etc. I should also have expounded at some length the peculiar nature of the unity and continuity of conscious process which prevent mind from being a mere Heraclitean flux. Again, Prof. Titchener throughout his book assumes the presence of free reproduction of ideas at every stage of mental development. The free reinstatement of qualitatively identifiable copies of sensation complexes is regarded by him as the most primitive form of reproduction—the essential condition of learning by experience. I on the contrary hold that past experience may mould and shape practical adjustment to a present situation without recall of ideal images, and I hold that this may and does happen as a primary process and not merely as the result of the dropping out of ideal links which have previously existed.

This is not the place to argue such points with Prof. Titchener. The fairer course is to consider his work from a different point of view. In the first place we have to ask, Will the reader for whom the book is intended derive substantial benefit from it? I have no hesitation in answering this question by an emphatic affirmative. The reader for whom the book is specially intended and others for whom it is not specially intended may derive from it a substantial body of knowledge and a real increase of clearness and insight. If they fail to do so, it will not be the fault of the author. For systematic lucidity and easy mastery of exposition, Prof. Titchener's book has no rival on its own ground. If primers of Psychology are to be written (and I think they should be) he is certainly the man to do it.

In conclusion I would draw attention to the feature of Prof. Titchener's work which is likely to contribute very greatly to its usefulness. I refer to the "Questions and Exercises" appended to each chapter. These are drawn up with admirable judgment and ingenuity. The student who works through them seriously and strenuously cannot fail to acquire real psychological power and insight.

Prof. Titchener is to be congratulated on his skilful performance of a difficult task.

G. F. S.

Mental Affections: An Introduction to the Study of Insanity. By JOHN MACPHERSON, M.D., F.R.C.P.E. London: Macmillan & Co., Ltd.; New York: the Macmillan Company, 1899. Pp. x., 380.

Dr. John MacPherson's *Mental Affections* is intended to be "an introduction to the study of insanity". It is this and more. The book is elaborated from Lectures, which obviously aimed at two things mainly—

a point of view and a description adequate for clinical practice. The "point of view" shows a decided advance on some good text-books; but the treatment of it is still hampered with a good deal of traditional baggage. The central concept is the functionally composite character of the nervous system, which is a system of systems, the possible dissociation of systems, and the corresponding dissociation of the parallel mental systems. These latter include the "unconscious mind," to which Dr. MacPherson gives great prominence. One regrets that he should draw so much on a metaphysical work like Von Hartmann's when so much well-wrought psychology is available in (say) Janet, or Ribot; for he is certainly led into much that has no direct bearing on the concrete problems of the insanities. Then, in dealing with "association of ideas," one naturally expects an author to have regard to the latest criticism of categories, as presented, for example, in Höffding or Dr. Stout's *Psychology*. That would have saved the author from speaking of the "contest of ideas" in terms like—"it is certain that only one idea can be present in consciousness at a time; but a struggle between abstractions is absurd and inconceivable" (p. 115). Many similar propositions are open to criticism; but for practical purposes the chapter is good. On the physical side, Dr. MacPherson emphasises the neuron as the functional unit, which, in its varieties of excitability and blocked resistances, suggests an easy formula for many orders of insanity. The hierarchical character of the nervous system is not forgotten; but it is not made as prominent as its importance warrants. It is puzzling to see why the book begins with heredity, and the causes of insanity. Here, I think, the author yields needlessly to traditional exposition. He does not take up very decisive ground on the heredity or non-heredity of acquired characters. He emphasises the "transmutation of neuroses" in heredity, so indicating a leaning to Weismann's view. Then as to classification, the author no more than other authors succeeds perfectly in systematising the insanities; but his excellent exposition of the toxic insanities certainly achieves something of system. His "insanity of the degenerate" is also a justifiable and well-worked-out section. Had he begun with his exposition of the psycho-physical parallelism—lamination, centres, neurons, dissociation—he would have been better able to exhibit the "causes of insanity" as operating on a known organisation and so originating the "forms" of insanity. Then he could have classified the clinical insanities to suit the purposes of practice. But, with all deductions, the book remains a solid presentment of the leading facts of alienism on its practical side.

W. Leslie MacKenzie.

Institutes of Education. By S. S. Laurie. Second Edition. Edinburgh: Oliver & Boyd. Pp.

This volume contains in a summarised form the matter of an important section of the author's class lectures. Those who agree with Mr. Sidgwick's protest against the lecturing system at our universities will welcome the book as a step in the direction of reform. It is to be hoped that the professor's colleagues will soon follow his example: dictation is a somewhat elementary exercise for university students. On the other hand, what is good for the students is not perhaps equally good for the book. It necessarily bears traces of its origin; and indicates its purpose by a more than usually elaborate arrangement. There are too many divisions and subdivisions for those who have no examination in view. But students will appreciate the careful classification, while general readers will take pleasure in noting the skill with which the writer keeps steadily in view the essential unity of the subject. For Prof. Laurie claims to have established an unbroken chain of rational interdependence from his first principles to his ultimate rules and applications. The contrast between the attuitional and rational planes is made to produce valuable applications; and the exclusion of memory and imagination from the "dynamic process of mind as such," gets rid of much of the confusion that the usual classification of those modes of being conscious involves. The practical identification of reason and will is at first startling, but after all we see no cause to refuse our author's invitation when he begs us "to go deeper down and see in Will the root, possibility and essence of this very endowment which in its fulness, that is to say, as including the form in which it moves to its end, *viz.*, knowing and willing, is called Reason" (p. 117). We doubt, all the same, whether he would be willing to let us make a general application of this system of Concept-interpretation, after the manner of Prof. James. It is interesting to note that though Prof. Laurie has adopted a new principle, and has followed entirely his own method, he has reached a body of sound doctrine in education which cannot fail to commend itself to all experts in that subject.

Dreams and Omens. Modernised and alphabetically arranged by C. DE BARS. Chicago: Laird & Lee, 1899. Pp. 192. Price, 75 c.
The Book of Destiny. Translated from the Italian by C. DE BARSY. Chicago: Laird & Lee, 1899. Pp. xxii., 169. Price, 75 c.
Practical Palmistry. By C. DE SAINT-GERMAIN. Chicago: Laird & Lee, 1899. Pp. 307. Price, $1.00.

These works are severely practical in character. Only in the last, and there only in an appendix, do we find a theory: the theory of an astral fluid, respired by the heavenly bodies, and absorbed by the Pacinian corpuscles of the human hand. Apart from this contribution to philosophy, the significance of the books lies in their existence and selling power. As indices of the present state of folk-psychology in a civilised nation, they may find mention in a psychological journal.

Discourse on the Method of Rightly Conducting the Reason and Seeking Truth in the Sciences. By RENÉ DESCARTES. Chicago: Open Court Publishing Co., 1899. Pp. vii., 87. Price, 25 c.; 1s. 6d.
Elementary Illustrations of the Differential and Integral Calculus. By A. DE MORGAN. Chicago: Open Court Publishing Co., 1889. Pp. viii., 144. Price, $1.00; 5s.
The Evolution of General Ideas. By T. Ribot. Chicago: Open Court Publishing Co., 1899. Pp. xi., 231. Price, $1.25; 6s. 6d.
Psychology for Beginners: an Outline Sketch. By H. M. STANLEY. Chicago: Open Court Publishing Co., 1899. Pp. iv., 44. Price, 20 c.; 1s.

The first of these little books is a reprint (with portrait of Descartes) of Veitch's translation of the *Discourse.* Veitch's "Introduction" is omitted, and a preface written in popular terms by T. J. McCormack substituted for it. The book is well printed, and should prove extremely useful.—The reprint of De Morgan's *Illustrations* has been reparagraphed, furnished with descriptive sub-headings, and carefully indexed. — Miss Frances Welby's translation of Ribot's *General Ideas* is accurate and readable.—Mr. Stanley's *Psychology* deals cursorily with the definition of psychology, knowing (sensation and perception, memory, ideation and introspection), feeling and will, and 'special' psychology. The essay reads easily and fluently. Unfortunately, the writer has not grasped the fact that the 'sensation' of experimental psychology is *not* the knowing-atom that it is in associationism; and accordingly burdens his text with a number of wholly irrelevant details.

Social Laws: an Outline of Sociology. By G. TARDE. Translated by H. C. WARREN, with a preface by J. M. BALDWIN. New York and London: The Macmillan Co., 1899. Pp. xi., 213. Price, $1.25; 6s.

This is a good translation of a brilliant little book. It should, however, have been indexed; and we regret to see that Prof. Baldwin has consented, even "on the insistent request of the publishers," to help perpetuate an unworthy custom.

The Élements of Vital Statistics. By A. NEWSHOLME. Third edition. London: Swan Sonnenschein & Co. New York: The Macmillan Co., 1899. Pp. xii., 353.

We are glad, in days when the biological and psychological sciences are making such wide use of the statistical method, to call attention to the new edition of this sound and wholesome book. Dr. Newsholme's third edition is, in fact, almost a new work. Fewer English tables are given; a number of foreign ones have been introduced; and the exact method of construction of a life-table is shown in detail. The chapters deal with population, births and deaths, disease, marriage, mortality in relation to age, climate and occupation, duration of life, statistical fallacies, etc.

Syllabus of Psychology. By J. H. HYSLOP. New York: The Macmillan Co., 1899. Pp. 116. Price, $1.00.

This number of the "Columbia University Contributions" contains abstracts of ten chapters upon psychological topics, entitled "Introduction," "The Conditions of Consciousness," "Sensation," "The Special Senses," "Consciousness and Attention," "Memory," "Apprehension or Intuition," "Thought or Ideation," "Emotion," and "The Will or Conation". The syllabus "has been designed solely as a time-saving instrument in" the writer's "lectures on the subject, and as a guide to" his "students in their reading and study". The references are only to "the current and most important English works on the subject of Psychology" (James, Baldwin, Dewey, Höffding (!), Titchener, Ladd, Stout, Sully, Hamilton).

In offering the syllabus to the general public, as well as to his classes, the author invites criticism upon his work. While it is difficult to criticise a series of propositions which must, from the nature of the case, be thrown into dogmatic and more or less aphoristic form, it may be said without fear of unfairness that the syllabus does not present a coherent system of psychology, still less a system of modern psychology. It may be said, further, that the compilation has been carelessly done: witness the remark, "See any work on the subject of Consciousness" (p. 11); "Brain, Senses and Intellect (p. 18); "McKindrick" (p. 19); the assumption of the validity of Weber's law for temperature, with the fraction $\frac{1}{3}$ (p. 26); the size of the finger-tip sensory circle given as "2 m." (p. 27); constant references to the "*Philosophic Review*"; "two instruments, which function, however, has one organ" (p. 30); and so throughout. We rejoice to strike a few references to the sources as we read on; but what shall we say of "Helmholtz, *Physiologische Optik*, pp. 692-695 (First Edition)" (p. 72)? We doubt whether the syllabus, as it stands, will not waste as much time as it is intended to save.

L'Être Subconscient. Par Docteur E. GYEL. Paris: Félix Alcan, 1899. Pp. 191.

This book, though intended for serious students, will have considerable attraction for the general reader. It is short, systematically arranged, and written with great clearness. It contains accounts of some striking cases of multiple personality, thought-transference, etc. It asserts the necessity of regarding force, intelligence, and matter as forms of the single principle of the universe, touches on the miseries of life and the desire for immortality, and declares that only the scientific explanation of facts can lead the way to a philosophy that will satisfy mankind.

Dr. Gyel's main object is to explain what he understands by the subconscious being and by its power of "exteriorisation" or manifestation of itself apart from the physical organism of the conscious being, and to show how this hypothesis throws light on facts which are left unexplained by the hypothesis that mind is a function of the brain.

The subconscious being coexists with the normal conscious being, and can act, perceive and think independently of the muscles, the organs of sense and the brain. It has a substratum of homogeneous fluid substance, which is inaccessible to the normal senses, can pass through solid objects, and can be in part projected to a great distance. By the action of the subconscious will it can be caused to assume different forms; and in the process of exteriorisation, which takes place in the trances of mediums or in the sleep of hypnotic subjects, it may take organic molecules with it. Its knowledge is partially acquired through the normal senses, either consciously or not, and partially by means which cannot be normal. It is reasonable to suppose that all subconscious psychical elements have been conscious psychical elements. But we find the subconscious being displaying knowledge which we know to have been inaccessible to the conscious being. Such cases can be explained on the hypothesis that the subconscious being is the "synthetic product of a series of successive consciousnesses," each of which ends with the death of a human organism.

Dr. Gyel illustrates his argument by referring in footnotes to various cases of abnormal manifestations. These are taken from Azam's *Hypnotisme et double Conscience*, Rochas' *Extériorisation de la Sensibilité*, Aksakof's *Animisme et Spiritisme*, the *Annales des Sciences Psychiques* and other sources. "Lucidity," or the faculty of acquiring exact knowledge without the help of the normal senses and without thought-reading, generally occurs in a state of hypnotic sleep. The subconscious being is active, the sensibility is exteriorised, and the hypnotic subject "sees" or "hears" at a great distance. Sleep is, physiologically, a resting of the nervous centres; but the diminution of functional activity does not explain the psychology of sleep. But if there is a subconscious being independent of the brain, logical and coherent dreams present no difficulty. There is no satisfactory physiological explanation of hysteria. Dr. Gyel suggests that it is due to defective subconscious direction, which may be caused in various ways. The external influence of circumstances and education on the conscious being may be too strong. The organism may be complicated and the subconscious being not sufficiently developed to know how to use it. Or the subconscious being may be too highly developed and consequently forced to struggle with an organism too coarse for its purposes. Again, the existence of a subconscious being would account for the permanence of personality amid molecular changes.

The most difficult part of the theory is the relation between consciousness and subconsciousness. The one is transient personality, the other, enduring individuality. The part of consciousness is to enrich subconsciousness, which stores up and synthetises the acquisitions of the senses. Subconsciousness "is, for the most part, independent of the normal will and consciousness" (p. 129), and hence it is difficult to determine where it begins and ends; but it exercises a general guidance in the manifestations of consciousness, and may be supposed to know and influence consciousness without being known by it. The subconscious being furnishes the conscious being with innate faculties and predispositions, and adapts these as far as possible to the organic conditions, for the development of the conscious being; and, since it evidently has some power of directing matter, may have some share in the development of the organism.

All this is very vague; but Dr. Gyel is not attempting to prove anything, but merely to show what deductions might be made from his hypothesis, if true, and how it would solve the problems of normal and abnormal psychology. And he adds that it would do more than that. If the personality that exists from birth to death is transient, if individuality endures and advances through successive incarnations, if ultimate happiness is attained by the observance of moral law, man is set free from the false principles of authority and social justice, assured of immortality and provided, by his belief in the progress of humanity through the free efforts of individuals, with an adequate motive for conduct.

E. F. Stevenson.

Esquisse d'un Enseignement basé sur la Psychologie de l'enfant. By Paul Lacombe. Paris: Armand Colin et Cie.

The brilliant epigrammatic style of this little book must not distract our attention from the solid common sense with which the whole subject is treated. No doubt educational heresies are so common now that M. Lacombe is much less out of the rut than he thinks he is; yet his revolt against the *fonctionnaire* way of regarding education is none too common in France where such a revolt is urgently called for. The existing system would do admirably if only the pupil were not a child, and "s'il etait en bas âge un estimable professeur de l'Université". Against the present dogmatic instruction our author recommends what he calls dialectic instruction. This new method corresponds in everything but name with the method rising into favour in all quarters and usually labelled as *heuristic.* M. Lacombe is, however, more thorough than most supporters of this method. His view of a teacher is not "en homme qui, sachant tout, enseigne tout, mais en homme qui aide à apprendre tout ce qu'on veut savoir". If a child wants to know about bookbinding, let the teacher take him to a bookbinder's. The Psychology upon which the *enseignement* is based naturally interests us here. We have no objection to the limitation of our forces over the child to the three levers, *curiosity, imitation* and *amour propre.* We even admire the epigrammatic use of his "la moutonnerie des enfants". But on pages 71 and 72 we find a theory sketched out which surely deserves fuller treatment. All formal logic is based upon the assumption that the processes of mind are the same no matter what the subject upon which the mind acts. Without a word of apology to the author of the *Outlines of the Laws of Thought* M. Lacombe tells us that the intellectual operations differ with the subject, and concludes his paragraph with the pregnant words: "A l'enfant qui demeurerait tout à fait ignorant de l'une de ces maitresses branches du savoir humain, il manquerait l'idée de l'un des procédés qui composent la raison humaine". He meets the educational difficulty by suggesting typical forms to illustrate all the different processes, but we cannot help feeling that the psychological foundation is a little too easily gained to be quite secure. Another example of a serious difficulty summarily dismissed is to be found in the footnote on page 203. Whatever may be said of his premises, M. Lacombe carries them logically to practical and useful conclusions.

Psychologische Untersuchungen ueber das Lesen. Von BENNO ERDMANN und RAYMOND DODGE. Halle: Max Niemeyer, 1898. Pp. viii., 360.

As its title implies, this book gives a *résumé* of the works on reading that appeared prior to 1896, and records the results of additional experiments on new or disputed points.

The volume begins with a summary of the preceding discussions, having particular reference to the controversy between the alienists as to whether reading is by letters or entire words. This serves to introduce the treatment of the problem as a whole.

The first phase of the question that the authors consider on their own account, and the one to which they contribute most new material, is as to the part played by eye movements and pauses in reading. The fundamental question in this connexion has regard to the number and conditions of the pauses that are made in reading a line. The conditions fall into two classes. The first, the merely physiological, are to be found in the size of the field of clear vision; the second are furnished by supplementing in terms of context. The distance of each eye movement is about one half of the diameter of the field of clear vision, but varies with the part of the line, and with the degree of familiarity with language, subject matter, and text. It is less for proof-reading than for ordinary reading (reading for the meaning). In general, it can be said that the pauses in eye-movements are most frequent when context helps least.

Chapters iii.-viii. are devoted to a discussion of the question of the nature of reading, whether by words or separate letters, and the problems that Wundt has treated under the head of 'the range of attention'. The authors constructed a new instrument, which is a combination of the revolving disk of Goldscheider and Müller and the projection apparatus of Scripture. It consisted, essentially, of a camera with a revolving disk before the lens. The length of the exposure is controlled by adjusting a radial slit in the disk. They assert that it possesses the advantages of great accurracy and of binocular adaptation. Wundt[1] has called attention, in his recent criticism, to the fact that the great accuracy for small time intervals is of little or no value, because of the long latent period of the retina, and that the Helmholtz and Cattell instruments both permit the use of the two eyes.

The results obtained confirm that of Cattell, that four or five letters can be seen with a single exposure, and that four or five times as many letters can be read, if they are grouped in familiar words. In this field, too, two factors are to be distinguished. The one is, again, the physiological range of clear vision; the other, the apperceptive factors. With discrete letters, not all that are within the limit of the field of clear vision can be read, *i.e.*, come into consciousness; while when the letters are grouped in words, more letters can be read than can be clearly seen. That is, letters that extended beyond the field were read, and words could be read that were so far away that the separate letters could not be seen. Moreover, in connected sentences less than a line in length, words could be read that fell entirely without the field of clear vision. In view of these facts and the errors that are made in reading indistinct words, the conclusion is reached that reading is in terms of the general form of the word rather than of the separate letters. The rough form of the letters, and the letters clearly seen, work together and mutually correct each other in the reading process. Where the form is ambiguous, the letters determine the way in which the word is read; and the form determines, where the letters clearly seen are ambiguous. In no case, however, is there an optical spelling-through of the word. Again, there can be no letter-by-letter translation from the optical element to the auditory element, for the sounds do not run parallel to the letters. On the whole, the results justify the assertion that reading is always by words, and never primarily by letters.

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[1] *Phil. Stud.*, vol. xv., p. 287.

The last two chapters of the book are devoted to a discussion of the reaction times that enter into the reading process. First under this head there is a long critique of the method of deducing the psychical times employed by Cattell. The examination results in a rejection of the divisions of the earlier workers, as based upon insufficient data. New principles are suggested in their place, but even these are not considered as entirely trustworthy. In their own results, the authors are content to give the uncorrected total times, and make no attempt to allot their due proportions to the different constituent processes. The results of the experiments in this department, too, go to support the main contention. It is found that a word of four letters can be recognised more quickly than a single letter, and that the time gradually rises for eight, twelve and sixteen letter words.

There is little criticism to be passed upon the work. It might be objected that the authors have devoted too much attention to the physiological and external factors in reading, to the exclusion of the more subjective or apperceptive factors: but that does not affect the value of their results. The treatise, as a whole, is a model of patient work. The writers have erred, where they have erred at all, on the side of too great care. In some cases, they have laid themselves open to the charge of thoroughness for the mere sake of thoroughness, without reference to the end to be accomplished. There is also a suggestion at times of verbosity in the explanations: but we can forgive them all this for the pleasure of feeling that, in this day of concentration, some have been able to write without considering limitations of space. Although the conclusions of the book hardly do more than confirm the results of earlier investigations, it is an advantage to have the material brought together in a convenient form.

W. B. Pillsbury.

Die Ideenassociation des Kindes. Von Dr. Th. Ziehen. Berlin: Reuther & Reichard, 1898; London: Williams & Norgate. Pp. 66. Price 1s. 6d. net.

Ueber die ausserhalb der Schule liegenden Ursachen der Nervosität der Kinder. Von Prof. Dr. A. Cramer. Berlin: Reuther & Reichard, 1899; London: Williams & Norgate. Pp. 28. Price 9d. net.

The process of association as regards adults has been studied experimentally by various psychologists. Prof. Ziehen, himself a prominent associationist, is now engaged in association experiments with children. In the present contribution he selects for discussion the nature of the trend of ideas when a given idea is presented. In essays yet to follow he intends to investigate the child's store of ideas, the velocity of its ideational movements, and the course and rapidity of association under special conditions. The children experimented with were exclusively boys, about forty-five in number, between the ages of eight and fourteen, of lower middle class standing, and belonging to the *Seminarschule* in Jena. All the experiments were conducted in one and the same room, almost all between 9 and 11 A.M., and lasted not longer than twenty minutes. It was generally sufficient to say to the child "Tell me what occurs to you first". The initial idea was suggested verbally, and was chosen at random, *e.g.*, one series begins "ship, gold, bed, green, bad, ink, freedom, grey, flesh, butterfly, similar". The nature of the replies varies. Some children tend to explain the word; some take refuge in alliteration, rhyme, or other verbal similarities; and some follow the suggestions of close relationship (as horse-carriage, cat-mouse, bread-butter, Christmas-nuts). The mass of the answers, however, cannot be traced so largely as in adults to persisting associations. Here is a good sample from a boy nearly eleven years old: "red-yellow, Jena-Weimar, sun-moon, water-fish, yellow-money, donkey-horse, coachman-coach, white-black, school-children, table-chairs, book-school, exercise book-children, stick-man, black-white, house-wall." etc., etc. Prof. Ziehen thinks it unquestionable that children, between eight and fourteen, are more pronounced visuals than adults. The origin of the associations our author traces to two sources—contiguity and feeling tone; pure and undisputable associations by similarity he has never observed. Lastly, he thinks that association inquiries offer valuable hints to teachers as to the individuality and capacity of children. This scanty outline misses of necessity several points of importance. The task which Prof. Ziehen has set to himself and which he has so conscientiously performed opens a field of inquiry that is certain to attract many to its cultivation. What strikes one, on the negative side, is the artificiality and cramped scope of these experiments. Children, like adults, are normally immersed in a topic, in a system of thought, and hence normal association, unlike what lies before us for review, is systematic. Is it, then, safe to deduce from such premisses conclusions as to regular thinking? Again, we should like to see the initial ideas varied. Let the same word be given repeatedly; let words of one class be chosen; let words such as "that, him, how, not" be selected; let a number of associations be demanded; in fine, let the normal process of association be examined. To us it seems that the mechanical or quantitative standpoint should be replaced by a more many-sided, comprehensive, and freer method, much like that which is employed in the physical sciences generally.

Prof. Cramer's analysis of those causes of nervousness in children which lie outside the school, is admirable. He takes a very sane view of the whole subject. He holds that nervousness is not a disease in the strict sense, and that it can often be prevented or cured. He protests against the growing literature on Degeneration which produces what it is supposed to combat. He significantly points out that the presence of nervousness in a family is of limited importance, since half of those who are untainted have tainted relatives. He divides the causes into endogenous and exogenous. Among the former he specially considers heredity, direct (father or mother) and indirect (more distant relatives). Among the latter he enumerates a large variety of factors, *e.g.*, neglect, poverty, pampering, ignorance. He insists that children should not be artificially stimulated during illness and convalescence; that parents should not be too eager as to the progress of their children at school; and that corporal punishment, which is now dispensed with in madhouses and criminal establishments, should not be administered in the home. On the whole, Prof. Cramer regards the roots of nervousness as being widespread; but he thinks that intelligent treatment may reduce the evil to a minimum. The pamphlet is to be recommended to parents and teachers.

GUSTAV SPILLER.

Die Spiele der Menschen. Von KARL GROOS. Jena: Gustav Fischer; London: Williams & Norgate, 1899. Pp. iv., 526.

This work is marked by the same qualities and is written from the same point of view as the author's *Spiele der Thiere.* It is divided into two parts. The first, comprising 464 pages, is devoted to a detailed account of the various forms of human play. An imposing mass of material is utilised, drawn partly from observations of children and partly from anthropological sources. In classifying the forms of play, the author makes a broad division between those by which the individual obtains mastery over his own psychophysical organism and those in which his relation to other individuals is a prominent feature, so that they serve to educate him in social behaviour. Under the first head are brought the playful exercise of the "sensory apparatus," of the "motor apparatus," and of the higher mental capacities. Under the second head are brought plays of competition and conflict, love plays, imitative plays and social plays (in a more special sense). The second part of the book is entitled "Theory of Play". It discusses the nature and function of play from various points of view: physiological, biological, psychological, æsthetic, sociological and pædagogic. Full critical notice will follow.

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VIII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. viii., No. 5. **J. G. Schurman.** 'Kant's *a priori* Elements of Understanding.'—III. [Apart from the analogies of experience, not yet considered, nothing is left of the entire Analytic but the demonstration of the presence in all experience and knowledge of the activity of a unitary self-consciousness. We now pass to substantiality and causality: reciprocity may be omitted. As regards the former, Kant failed to see that the notion of substance is not an epistemological condition, but a scientific hypothesis. So with causality: Hume transformed the old anthropomorphic conception of it into that of insubstantial events temporarily related. Kant appropriated this view, but sought to extract the causal principle *a priori* from the pure category of dependence. And even if Kant is so far justified that the ideal of the new causation is to subordinate the laws of nature to the logical principle of ground and consequence, the relation between logical thought and the order of cosmical events could never transcend analogy.] **W. Caldwell.** 'Von Hartmann's Moral and Social Philosophy.—I. The Positive Ethic.' [Analysis of *Das sittliche Bewusstsein*. (1) Brief critique of hedonism and of objective morality (ethics of feeling and taste). (2) Objective morality as heteronomous needs no comment; as rational morality, it "inevitably collapses into the ethic of the 'end'". (3) Social morality, the programme of social democracy, implies the general-happiness principle: happiness and enjoyment are more cared for than culture and development. Or, if not, it is culture and development of heart and character (not of intellect) that are desired, and the ethical standard has altogether changed. The evolutional philosophy is responsible. (4) We may now look, with Hartmann, for a superhuman end to human evolution; or we may seek a deeper correspondence between the aims of personal and social evolution. Hartmann has, in any case, broken up the apparent objectivity of the notion of social development as the supreme end of conduct.] **J. D. Logan.** 'The Absolute as Ethical Postulate.' [We are free, in so far as our morality on its inner side passionately reaffirms the ideals of the absolute. And "whether the individual's days be few, or whether he live again in another world, he is just as mortal or immortal as he *can* be, *i.e.*, so far as he, by his active co-operation with the mind and will of God, perfects the life of the absolute". The teleological world is constituted by the conscious relation of the world of the absolute as such and our describable world as such; and finality is the category of our inmost being.] **G. A. Cogswell.** 'The Classification of the Sciences.' [The attempts of Comte, Spencer, Wundt, with criticism. "A true scheme of classification should be explicitly two-dimensional, having reference both to the logical nature of the mental activity involved, and to the distinctive character of the different spheres of reality." Scheme based equally upon differences of method and of object.] Reviews of Books. Summaries of Articles. Notices of New Books.

PSYCHOLOGICAL REVIEW. Vol. vi., No. 6. **J. H. Leuba.** 'On the Validity of the Griesbach Method of Determining Fatigue.' [A careful piece of work, the general outcome of which is that, if the limen of tactual duplication vary with fatigue, it is still so largely dependent on other factors (temperature, thickness of epidermis, peripheral blood-supply; the general psychophysiological state of the subject, conditions of attention) that it cannot serve as an index of the fatigue-state. The conclusion is thus opposed to the results of Griesbach, Wagner and Vaimod.] **G. B. Germann.** 'On the Invalidity of the Æsthesiometric Method as a Measure of Mental Fatigue. [In one normal case, the limen of tactual duplication bears no constant ratio to the fatigue-state of the subject] **W. P. Montague.** 'A Plea for Soul-Substance (II.).' [Attempts to characterise soul-substance by way of a search for limiting forms (perfect types) of mechanical or material and of teleological or mental relation. Result: the soul differs from a *Ding an sich* in that it is known to exist under a form of its own, the moral form; and it stands to its attributes in that double relation whereby it is at once the common genus of both and a distinct species of each.] Discussion and Reports. **H. Davies.** 'The Growth of Voluntary Control.' [A plea for voluntarism *v.* mechanism, growing out of Ladd's *Eigenlicht* experiments. (1) Will as tact; (2) the lack of demarcation between spontaneous and conscious control; (3) teleological control, or ultimate self-control.] **T. P. Bailey.** 'Ethological Psychology.' [Reply to Bliss.] **G. V. N. Dearborn.** 'Sensational Attributes and Sensation.' [The term 'sensation' is worse than useless in psychology.] **H. F. Washburn.** 'After-images.' [Reply to Franz.] Psychological Literature. New Books. Notes.

REVUE PHILOSOPHIQUE. January, 1900. **Dr. E. Tardieu.** 'L'Ennui: Étude Psychologique' (I.) [This state may be induced by (1) physical and mental fatigue, resulting from age or constitutional predisposition; (2) lack of variety or impotence of faculties, *e.g.*, idiots, weak persons, etc.] **A. Bertrand.** 'L'Enseignement scientifique de la morale.' [Scientific instruction in morality must be preceded by scientific study of man. In a four years' course the first should be devoted to (objective) psychology, the second to logic, the third to æsthetics, and the fourth to sociology and economics.] **A. Schinz.** 'Sens commun et philosophie.' [Common sense cannot explain given facts, is often self-contradictory, and instead of solving problems creates them. Hence it can never be a substitute for philosophy.] Récherches Experimentales. **B. Bourdon.** 'L'Acuité stéréoscopique.' **C. Hémon.** 'Deux lettres inédites de Proudhon.' Analyses et comptes rendus. February. **L. Winiarski.** 'L'Energie sociale et ses mensurations.' [A study of the transformations of biological energy presented within the sphere of sociology.] **Evellin et Z.** 'L'infini nouveau.' **Dr. E. Tardieu.** 'L'Ennui (II.). [Further causes of *ennui* are (3) *vie manquée*, *e.g.*, the poor, old maids, etc.; (4) Monotony, *e.g.*, in professional life, marriage, etc.] Récherches experimentales. **Dr. E. Toulouse et N. Vaschide.** 'L'Asymétrie sensorielle olfactive.' Analyses et comptes rendus. Revue des periodiques étrangers (Philosophical Review). Nécrologie. Variétés. March. **A. Lalande.** 'Progrès et Destruction.' [Progress consists in the destruction of forms of social organisation which have grown up through the interplay of non-rational tendencies. This destruction is coincident with the growing influence of reason and the growing recognition of man as a rational being. Its direction is always towards freedom and equality and its principle is that all men should be free and equal *in so far* as they are reasonable beings. The anarchist commits a fallacy by omitting the reservation "in so far as". He forgets that men are never purely rational and he fails to see that coercion of non-rational tendencies is necessary in order to secure a free field for reason.] **E. Tardieu.** 'L'Ennui: Étude psychologique.' [Discusses (1) the *ennui* that springs from satiety with special reference to the *ennui* of the rich and that distinctive of the inhabitants of large towns; (2) the *ennui* arising from a sense of the nothingness of life.] **L. Winiarski.** 'L'Energie sociale et ses mensurations.' [Reduces "social energy" to attraction (1) between living matter and inanimate nature: (2) between living beings *inter se*. Money supplies a standard for measuring all forms of this energy as manifested in human beings.] Revue Critique. **G. Belot.** 'La Religion comme Principe sociologique.' [Deals with two articles in the *Année Sociologique* for 1897-98, the one by **Durkheim** on the 'Definition des phénomenes religieux,' the other by **Hubert** and **Maus** in 'La nature et la fonction du sacrifice'.]

REVUE NÉO-SCOLASTIQUE. No. 22. **J. Halleux** ('Le problème philosophique de l'ordre social') divides the various theories on the metaphysical foundation of the social order into the Christian, which bases the social order on a natural necessity of the moral order resting, in the last analysis, on the will of God; the "contract" theory, originally propounded by Epicurus, and advocated in modern times by Hobbes and Locke, but finding its chief defender in Rousseau, which represents the social order as a result of mere convention; and the evolutionist, which regards the social order as an expression of the blind necessity of things. **C. Plat** ('La valeur morale de la science d'après Socrate') maintains that "to convert men to virtue by means of knowledge" was the chief aim of Socrates. But by what kind of knowledge? If Socrates appears at times as a pure moralist, or, in the words of Marbach and Khron, "a simple reformer of practical life," he appears at other times as a mere "speculator" who desires knowledge for its own sake. But Socrates was above all things a moralist, insists M. Plat. Even when he encouraged to speculation his final intention was a moral one. It was not sufficient to set before the Athenians a high ideal of life. It was necessary to make them grasp this idea in all its beauty and majesty. But cultivated minds alone could so grasp it. But speculation is mind culture. Hence the efforts of Socrates to promote speculation. **C. Noel** ('La conscience de l'acte libre et les objections de M. Fouillée') contends for the freedom of the will and replies to the arguments advanced in support of Determinism. **D. Mercier** ('Un cri d'alarme') defends Néo-scholasticism from the strictures which have recently been passed upon it by Prof. Billia of Turin. **M. de Wulf** ('La Synthèse scolastique'—*suite et fin*) shows that Scolasticism is far removed from any system of Monism. Its Theodicea presents a personal God and establishes the fact of creation. Its metaphysic of contingent being is at once a moderate dynamism (act and potentia, matter and form, essence and existence) and a resolute defence of individualism. Its psychology is experimental, objective and spiritual. Its moral science and its logic borrow from its psychology their distinguishing characteristics.

L'ANNÉE PSYCHOLOGIQUE (Cinquième année), 1899. This volume like its predecessors is edited by Dr. Binet, with the assistance of Dr. Beaunis and Prof. Th. Ribot, and it adds to the obligations under which students of psychology already lie towards these indefatigable workers in the field. They have once more given us a serviceable record of recent research and opinions as well as some some interesting original papers.

The analysis of recent books and articles occupy less room than those of last year. They extend to about 150 pages as against 270 in 1898; but they do not fall in any degree below these in interest, and present in a convenient and readily consulted form the results of a great deal of the latest work done by French, German and American psychologists. Once more the English make a very poor appearance. You may turn over dozens of pages without seeing a single British name. Is it not about time that something should be done to remove this reproach? During the last few years we have produced some admirable general works of a theoretical character, but in systematical experimental research, at any rate as regards human consciousness (for we must not overlook the inquiries of Prof. Lloyd Morgan), we have done next to nothing. There is no doubt need to review and co-ordinate the researches of men engaged in comparatively small and isolated corners, and in psychology, even more than in other sciences, excessive limitation of interest can lead only to unsatisfactory consequences. But while this is true, yet the divorce of theoretical exposition from exact quantitative research must have in the long run an effect almost equally deplorable. Work in properly equipped laboratories is necessary in order to keep the psychologist in touch with fact. The theorist, who deals largely with loose generalities and who bases his opinions on casual data obtained by more or less unsystematic introspection, must be at a considerable disadvantage. It may be a question whether general theory is not too much neglected in the psychological teaching of some foreign universities. Whether this be so or not, it is clear that we Englishmen are making a mistake in devoting our whole attention to it, and trying to study and teach without any serious experimental and quantitative work.

The original papers which take up the first 600 pages of the volume seem on the whole somewhat less important than usual. The longest is an article by **M. Victor Henri**, entitled "Revue générale sur le sens musculaire," which contains a historical and critical account of the subject, running to more than 150 pages. The writer includes in his survey the various sensations (articular, dermal, etc.) which accompany and make known to us states of rest and motion, as well as those which may more properly be called muscular. He recalls some of the main contributions made by different psychologists and physiologists from Berkeley to Goldscheider and makes clear the exact nature of the various questions they have attempted to solve. M. Henri shows himself as usual a fair and acute critic. His own position is seldom very decided, though he takes sides against Goldscheider in regard to the existence of muscular sensation. He argues that Goldscheider's negative view on this subject rests on an insufficient basis of fact. The non-visual sensations of movement cannot be entirely resolved into those arising from the surfaces of the joints. If they can, how is it we have such sensations through the eye and the tongue? Goldscheider apparently examined only cases of passive movement, that is changes of position of a member when the subject remains passive, while the member is moved by external means. Henri rightly objects to our extending to the case of active movement results which have been found to hold good only in the case of passive movement; also to our assuming that in movements of a whole limb only the same sensations will be involved as when a single digit is lifted. It is reasonable to expect that the psychical processes involved in the wide and complex movements of an arm will be in many ways different from those which accompany the displacement of a single finger. The whole question needs a great deal more experimental investigation. It seems to me that M. Henri overlooks the importance of tendon-strain as a possible factor. In the main his attitude must commend itself to those who prefer to weigh their facts in quiet rather than be in the front of a new movement of opinion. He holds that the existence of innervation-sensations can at present be regarded as neither proved nor disproved. Here again there is much need for fresh observations both of normal and abnormal subjects. The omission of any discussion of Münsterberg's very complicated view as to the character of the so-called innervation-sense, a view which Wundt now accepts and in which he seems to claim a paternal interest, is unfortunate.

Next in length and perhaps in importance is a *mémoire* by the **Editor** himself on Suggestibility. It seems to group together without sufficient justification many different types of mental process; but it contains some very interesting details as to conjuring, automatic writing, the tendency to double personality and the liability to hallucination. The experiments made by Seashore at Yale, and first reported in 1895, show us clearly that, given certain conditions (*e.g.*, authority, routine, etc.), there are few persons who do not readily become victims of perceptional hallucination. Even American students who had been warned that tricks would perhaps be played on them were deceived; when thrown off their guard by a few repetitions of the experiments with actual stimuli they appeared to perceive stimuli which did not actually occur. These and much else in the paper have an obvious bearing on reports of miracles, spiritualistic phenomena, and hypnotic experiments.

Dr. Zwaardemaker gives some account of the present state of knowledge as to the physiological and physical conditions of olfactory sensation. He is of course a great authority on the subject, but one is surprised to find that he uses an olfactometer with indiarubber tubing and sometimes mixes his solutions of odorous substances with paraffin. More interesting is a short article by **Dr. Bourdon** on the alleged apparent decrease in the size of objects, *e.g.*, the sun and moon, as they rise above the horizon. He comes to a negative conclusion, and thus contradicts the results obtained by Stroobant about fifteen years ago. Diagrams would have been welcome in this paper. The impression it leaves on one's mind, at any rate on my mind, is that sufficient care has not been taken to avoid entirely the suggestions of distance. Another interesting paper is that on our perception of solid objects by **M. Claparède,** who urges that "form" is an abstraction, and that it is impossible to establish in any absolute way that the perception of it depends on some particular type of sensation. Sensations of temperature, contact, pressure, movement, and others are concerned. He draws an interesting distinction between primary and secondary identification of objects, between apprehending the form and recognising the object as one of a certain definite kind. There are papers on muscular and intellectual fatigue, and one on what the French call *audition colorée*, first clearly described by Galton. **Dr. Blum** gives us some useful criticism on certain recent contributions to "Pedology," and pleads for caution in proclaiming general laws of intellectual development on the strength of numerical results obtained from a single country or even a single district. Several papers on apparatus serviceable in the psychological laboratory will be found of interest; but two or three on cephalometry would be more in place in an anthropological year-book. There is a good deal of bibliographical information in the volume, which may be recommended to most students as almost indispensable. It is, considering its character, commendably free from misprints, though I have noticed a few.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xxii., Heft 2. **G. Abelsdorff.** 'Die Aenderungen der Pupillenweite durch verschiedenfarbige Belichtung.' [Experiments with monochromatic light. The degree of brightness, which a colour impression as a whole evinces for sensation, is proportional to the magnitude of the stimulus affecting the centre for pupillary contraction. The disproportionate changes produced in the stimulation-values of different lights with change of light intensity and adaptation (Purkinje phenomenon) find expression in the regulative innervation of the pupil.] **Reddingius.** 'Eine Anpassung.' [Experiments on the correlation of visual with tactual space, after and during the wearing of prismatic glasses. Mistakes are due neither to a wrong judgment of the direction of vision nor to misleading organic sensations in the exploring limb, but simply to abnormality in the motor effect of the impulses of innervation, when these have arisen at the hest of visual ideas.] **H. Cornelius.** 'Ueber Gestaltsqualitaeten.' [The first of a series of papers, dealing with the recent articles of Meinong and Schumann. (1) The simple content and its attributes, Mueller's theory of like groups. The process of judgment in the distinction of attributes consists of the reproduction of contents conditioning the meaning of the predicate word, and of the knowledge (not the abstract idea) of the similarity of the judged contents to those reproduced. Such a view is more exact than Meinong's theory of the play of attention upon aspects of the simple contents. (2) Complex contents. The form-qualities are rather attributes than contents; and are not an explanation, but simply designations of empirical data. They cannot be explained as relations (relations form one class of them) or as modes of feeling. (3) Judgments of comparison require the presence of the two contents to be compared, and the knowledge that they belong to that group of such complexes which has determined the meaning of the predicates 'so far alike,' 'so far different,' etc. The second factor is, in turn, composed of the after-effect of this group, and of the knowledge of the similarity of the new complex to the old.] **F. Sommer.** 'Ein Experiment ueber Termineingebung.' [Terminal suggestion to a subject who could remember on waking a part of his experience in the hypnotic state, that he should perform an act two minutes after coming to himself. The subject asserts that he resolved to count one hundred and twenty, and did count up to thirty-one or thirty-two, when he fell asleep. The writer suspects full counting, and partial amnesia in the waking state.] Besprechungen. **W. Stern** on H. Cornelius' *Psychologie als Erfahrungswissenschaft,* and **Runze** on A. Sabatier's *Esquisse d'une philosophie de la religion d'après la psychologie l'histoire.* Literaturbericht.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE. Bd. xxiv. Heft. 1. **J. Cohn.** 'Münesterberg's Versuch einer erkenntnistheoretischen Begründung der Psychologie.' [Contests two fundamental positions of Münesterberg's; (1) that description of conscious process involves its reduction or transformation into sensations and sensations only; (2) that explanation of conscious process is possible only by reference to material process.] **E. Pasch.** 'Ausgangspunkte zu einer Theorie der Zeitvorstellung.' [Examines the results of experiments on the "Time-sense".] **C. Siegel.** 'Über einige Entdeckungen der Naturwissenschaft in ihrer erkenntnistheoretischer Wirkung.' [The Copernican theory, the Microscope, the principle of Energy, the struggle for existence.] **P. Barth.** 'Fragen der Geschichtswissenschaft. Unrecht und Recht der organischen Gesellschaftstheorie.' [The characters assigned by Kant as constituting the concept of an organism are also accepted by Modern Biology. But these characters can all be predicated of society. Therefore it is legitimate to regard society as an organism. But the organism is spiritual, not animal, and this is a distinction too often neglected. Proofs from History for the

Unity of the spiritual organism, the Interdependence of its parts, and its power of Reproduction.]

Philosophisches Jahrbuch. Bd. xii., Heft 2. **V. Cathrein.** 'Der Begriff des sittlich Guten (conclusion).' [The writer proceeds to expound Aquinas' theory of moral good and evil. Good is that towards which everything tends, according to its nature. The tendency which is according to reason is the human will; that towards which the will tends is moral good. Moral evil is any defect, any failure in harmony between the tendency and reason. Its criterion is human nature itself, in relation to itself, to society, to God.] **J. Geyser.** 'Wie erklärt Thomas von Aquin unsere Wahrnehmung der Aussenwelt?' [According to Aquinas, our perception of the outside world is partly passive, in so far as acted upon by the properties of bodies, partly active, in so far as the *similitudo objecti*, which did not exist before, arises within us. This activity is not transient, since it remains in the agent; it is immanent, and produces the form of the thing perceived in the perceiver. This form is the awareness that we perceive a sound, etc.] **C. Švorčík.** 'Uebersichtliche Darstellung . . . der . . . Beweise für die . . . Unsterblichkeit der . . . Seele (conclusion). [The writer gives a summary of various proofs of the immortality of the soul,—metaphysical, teleological, moral, theological and historical; after which he maintains the value of certain metaphysical proofs attacked by Kant, and criticises proofs given by Plato, Kant and Jacob.] **J. Bach.** 'Zur Geschichte der Schätzung der lebenden Kräfte (continued).' [This paper, following the development of the idea of weight as *vis viva*, comes to Newton's law of gravitation, and thence enters on the problems connected with the notion of space.] **J. Müller.** 'Komik und Humor.' [A critical article, dealing with a work by Theod. Lipps, bearing the same title. The work has many shortcomings, but much keen analysis.] **C. Gutberlet.** 'Zur Psychologie der Veränderungsauffassung.' [This is also a criticism, very favourable on the whole, of a book of the same title, by L. W. Stern, and dealing with experimental psychology.]

Rivista Filosofica. May-June, 1899. **G. Zuccante.** 'Le Opinioni del Cousin e del Tannery intorno agli argomenti di Zenone D'Elea.' [Against the view—that Zeno's Paradoxes were criticisms of Heraclitus —Tannery endeavours to show that they were intended as a *reductio ad absurdum* of the Pythagorean view of space, body, time and motion. Accepting the Pythagorean deduction that body is a sum of points, time a sum of instants, and motion a sum of simple passages from point to point, the absurdities of Zeno's paradoxes result. Against this theory the writer of the present article returns to the authority of Aristotle, which shows that Zeno criticised *motion* rather than the multiplicity involved in motion.] **A. Piazzi.** 'Libertà o Uniformita nelle scuole medie?' **G. Cesca.** 'I Corsi filosofici nelle Università germaniche nei deu semestri dell' anno accademico, 1898-1899.' [An interesting account of Philosophy in Germany. The article is supplemented by tables showing the names of teachers and the subjects of their lectures, also classified lists of numbers of students.] **A. Faggi.** 'Nota psicologica sull' idea di numero.' [In a work published in 1898 the writer maintained that the idea of number presupposed time, because the essence of number is repetition, or the successive addition of unit to unit. Since that date, however, he has noticed from observation of very young children that his theory was not confirmed in fact. The child distinguished unity from multiplicity, and learnt number rather by the relations of groups of objects *in space* than by successive additions of units.] Bollettino, etc.

IX.—NOTES.

THE COMPLICATION PENDULUM.

In a brief note upon an article by C. D. Pflaum, published in Wundt's *Philosophische Studien*, xv., 1, p. 139 ff., it was remarked (MIND, 1899, p. 564) that the author, who worked with the complication pendulum, had said nothing of the defects of the instrument. "The present writer," it was added, "has never seen an instrument in which the pendulum did not kick at the moment of complication."

Prof. Wundt has penned a reply to this criticism, which appears in the *Studien*, xv., 4, p. 579 ff. He first of all notes the ambiguity of the reviewer's phrase "at the moment of complication". As, however, he himself, and every one who has actually used the instrument, know perfectly well what is meant, no words need be wasted on this score.

Prof. Wundt then proceeds to the charge of incompetency, and gives full directions for the use of the pendulum. The reviewer's experience has been so similar, that it may be briefly stated.

In 1892 the reviewer assigned to a graduate student an investigation into the temporal relations of the "apperception of simultaneous stimuli". The work was to be carried on by aid of a complication pendulum of Krille's make. After a little time, the student reported that he could not make the instrument work. The reviewer impressed on him the importance of the *Balancirhebel H*, and gave him directions for setting the pendulum: Prof. Wundt's sentences on page 582 might be a German translation of them. In a little while the complaint was renewed. The reviewer—knowing full well, what every director of a laboratory knows, that there are instruments which 'won't work' for students, but which will work beautifully when the head of the laboratory comes and looks at them—took the machine in hand himself. Then a mechanician took it in hand. Then it went back to Krille, who apologised and sent another in its place.

This other has also refused to work—for anybody. It has travelled, despairingly, to three mechanicians, one after the other; and each has proposed to rebuild it, at something over its original cost. It now rests in a cabinet, and possesses only an 'historical value'.

The reviewer has a passing acquaintance with another pendulum, which also kicked when friendly advances were made to it. This need not be insisted on. To make the criticism more objective, he sent inquiries concerning the instrument to nine of the principal American laboratories, all of which have replied. Five do not own the pendulum. The remaining four speak as follows:—

Instrument I.—Pendulum of Krille's make, in use '91-'92. "We soon discarded it for apparatus of our own construction: partly because it did not, in our opinion, furnish the conditions supposed by Wundt and von Tschisch; partly because of the noise it made, owing to indifferent workmanship in fashioning the gear wheels, . . ." etc., etc. [A long technical criticism follows.]

Instrument II.—"I used it in [name of laboratory], and was not impressed with its working qualities. I prefer" [then follows a description of the writer's own apparatus].—A later account of this machine says: "It was made by Krille. I never used it for anything but rough demonstrations, and have since transformed it to other uses. It did not seem to me a good instrument."

Instrument III.—"The Krille pendulum worked satisfactorily for illustrative purposes when carefully adjusted. I never had any confidence in it for scientific work, and never used it for systematic experiments. The same, however, is true of much of the apparatus used in our laboratories."

Instrument IV.—"I have a complication pendulum, but made by Zimmermann [of Leipzig]. It is fairly satisfactory, except that the motion of the pointer is impeded when the mechanism for ringing the bell is raised, and that it is difficult to determine the objective time of the bell-stroke upon the scale."

Here are five pendulums by Krille (if the reviewer's two be counted), and one by Zimmermann. All five of the former are subject, for one reason or another, to severe criticism. The Zimmermann machine is only 'fairly satisfactory'.

The fact, then, seems to be that the design of the instrument, though meritorious in the first instance, is one that an improved technique and a wider range of problems render out-of-date; that the workmanship, in most cases, is distinctly poor; and that a desire to put a fairly cheap piece upon the market has further led to the use of poor materials. It would be as absurd to continue the charge of incompetency, in face of all these critics, as it would be to say that all German firms do less good work for exportation than they do for home consumption.

THE REVIEWER.

MR. MACCOLL'S QUESTION ON P. 144 OF *MIND* FOR JANUARY, 1900.

In MIND, for January, 1900, Dr. MacColl invites expressions of opinion "as to whether the implication, *If it is probable that A is certain, it is certain that A is probable*, is always true". By *certain* he means *necessarily following from premisses or data* (*cf.* "Symbolic Reasoning," MIND, Jan., 1900, pp. 79, 80). So the proposition in question may be stated in this way:—

If it is probable that *S is P* necessarily follows from given data, then it necessarily follows from given data that *S is P* is probable.

I think that the inference here from Antecedent to Consequent does always follow, because what is pronounced probable from a "probability unsubjective point of view" must be so pronounced as a conclusion from given data or premisses.

If $\begin{matrix}\text{M is P}\\ \text{S is M}\end{matrix}$ are probable, then *S is P* is probably certain, but we can only say that $\begin{matrix}\text{M is P}\\ \text{S is M}\end{matrix}$ are probable, in the sense explained by Dr. MacColl, if we can produce premisses from which their probability necessarily follows. In the case which he gives on page 77 (MIND, Jan., 1900) if we take the figures numbered 1, 2, 3, as the possible alternatives, it is probable that *Some E is A* is certain. But this is only probable because *Some E is A* follows from two alternatives out of three; so that the probability is *certain*—*i.e.* follows necessarily from the given data.

Thus, it will be observed, the Consequent follows from only *part* of the Antecedent, since *probable = certainly probable*.

E. E. C. JONES.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—NECESSITY.

By Dr. G. E. Moore.

My primary object in this paper is to determine the *meaning* of necessity. I do not wish to discover what things are necessary; but what that predicate is which attaches to them when they are so. Nor, on the other hand, do I wish to arrive at a correct verbal definition of necessity. That the word is commonly used to signify a great number of different predicates, which do actually attach to things, appears to me quite plain. But, this being so, we shall be using the word correctly, whenever we apply it to any one of these; and a correct definition of necessity will be attained, if we enumerate all those different predicates which the word is commonly used to signify: for the only test that a word is correctly defined is common usage. The problem which I wish to solve is different from either of these. It is a problem which resembles them in its universal application. There is a solution of it not only for necessity but for everything that we can think of; and in many cases the discovery of this solution appears to me to be of fundamental importance for philosophy. The nature of this problem may perhaps be exhibited as follows: When a man says 'A is necessary' or 'red' or 'round' or 'loud' or, whatever it may be, he may be wrong in three ways. (1) He may be using the word 'necessary' in a sense in which it is not commonly used. For instance the thought which he intends to convey may be that 'A is red'; and then, whether A is red or not, he is committing a verbal error in saying that 'A is necessary'.

(2) He may be using 'necessary' in one of the many senses in which other people use it, but he may be mistaken in supposing that A really has the predicate, which he rightly denotes by that word. (3) He may both be using the word correctly and also be right in supposing that A has one of the predicates which 'necessary' commonly signifies; and yet he may be wrong in a different way. For while rightly thinking that it has one of these predicates he may be mistaken in supposing that it also has some other of them. That 'A is necessary' we must grant him to be both verbally and substantially correct; and again that 'B is necessary': and yet in so far as he includes with that predicate which A really has the predicate which B really has, his statement that 'A is necessary' may be very incorrect. All this is obvious enough, and such confusions have been fully recognised as a frequent source of fallacy in reasoning. What I wish to point out is that this mistake is not a mistake about the meaning of a word, nor yet about a question of fact. The question which we must answer in order to decide whether a man is mistaken in this way is quite different from either of the two questions: Is he using this word correctly? or Has the thing in question that predicate? For there may be no doubt at all that we should answer Yes or No to either of these questions; and yet there may be much doubt as to what the predicate in question is. While never doubting that certain things have certain predicates, and that all these predicates are commonly signified by the same word, we yet may be in doubt whether there is anything in common between these various predicates and, if so, what. We may be right on both the former points and yet be wrong on this. This, then, is the question which I intend to raise, in asking what is the meaning of necessity. My main object is not to discover whether any or all propositions of the form 'A is necessary' are true or false, nor yet whether they are correctly expressed; but what their *meaning* is.

But, though this question is the one I mainly want to answer, I see no means of reaching my conclusion except by a partial discussion of both the others. Their relation to it is indeed peculiar. Logically it is presupposed in both of them: for 'A is necessary' is not true or false, unless it have some definite meaning; and, if the word 'necessary' is usually applied to certain predicates, it is predicates with some definite meaning to which it is usually applied. We might then be tempted to say: We must know exactly what it is we are talking about, before we can know whether what we say of it is true or false. And it is a fact that an exact knowledge of what we are talking about will often lead us to see that what we had thought true of it is false. But the order of discovery is generally just the reverse of this. We must have judged correctly that certain collections of objects were three in number many times over, before we could know exactly what three was. And so here I must examine the cases in which things are said to be necessary, before I can discover what necessity is.

Now it would appear there are three classes of entity which are commonly called necessary. We may call a connexion necessary, or we may call a thing necessary, or we may call a proposition necessary. And there is at least one property which may be common to all these three. All three of them may be forced upon the mind. We may have the feeling of compulsion with regard to them. We may feel compelled to believe that two objects have a certain relation, or that a certain thing exists, or that a certain proposition is true. But this feeling of compulsion, though it may probably have been the origin of all our ideas of necessity, has certain properties which prevent us from identifying it with them. For it accompanies different beliefs at different times and in different persons. If we were to say that a necessary truth is one, belief in which is accompanied by a feeling of compulsion, we should have to admit that the same truth was necessary at one time and unnecessary at another, and even that the same truth might be simultaneously both necessary and unnecessary. But it is certain that necessary is often used in a sense which would exclude this possibility. Necessary truths, it would be said, are truths which are always necessary: and whether there are any such or not, we certainly mean by them something different from truths, belief in which is sometimes accompanied by a feeling of compulsion. Nor can it be said we only mean such truths as are *generally* accompanied by such a feeling. For the truths which are most commonly regarded as necessary do not now generally excite any such feeling when we believe in them. A belief in the truths of arithmetic, for example, has now become so habitual, that we obtain it with the greatest ease. And, if it be said that these beliefs are nevertheless all of such a nature that they would generally excite the feeling of compulsion, if we tried to believe the opposite, it may be admitted that this is true. Probably in most cases we should find it difficult to believe the opposite of those truths which we call necessary. They would force themselves upon us in spite of our efforts. But there is no reason to believe that any truths have this property *universally*. It would be a bold assertion that no one ever had believed or would believe with ease that two and two make five. And if the statement be general only and not universal, it would apply to many more truths than are commonly thought to be necessary, as, for instance, to the existence of the sun and of the earth. It can scarcely be maintained that such facts have failed to be called necessary, solely because it was not perceived that their opposites were hard to believe. The most plausible way, then, in which it might be attempted to show that the meaning of necessity always involved a reference to the feeling of compulsion, fails at least to cover the distinction between necessary and existential truths. The most plausible expression of this theory would take the form: That is always necessary, belief in which would generally excite a feeling of compulsion, if we tried to believe its opposite. And this definition of necessity, while it is doubtful even whether it would apply to most cases of supposed necessary truths, certainly fails in that it will apply to many others as well.

It seems questionable how far this feeling of compulsion is to be identified with the impression from which Hume sought to derive the idea of necessity. But his account of how we come to think events necessarily connected certainly implies quite a different meaning of necessity, which must be carefully distinguished from this. What he says is that when a succession of two events has been repeated often enough, the mind has a habit of reproducing the idea of the second on the occurrence of the impression of the first. He does not seem to maintain that it *feels compelled* to have the idea of the second event. But unless he does mean this, where is the impression of necessity for which he was seeking? Either he must mean that there are constant successions among mental events just as there are among physical; but in that case it would seem that the succession in the mind can give rise to no idea different from that to which the physical succession might of itself give rise. Necessity in this case means merely constant succession, and Hume's reference to the habits of the mind is quite superfluous. Or else he means that the mental habit does actually compel us to think of the second event on occurrence of the first. But in this case he is illegitimately transferring to the contents of the mind that very idea of necessary connexion which he is seeking to deny to physical events. For, on his own showing, we have no title to say anything more of mental contents than that they do succeed one another in certain fixed sequences. His question is: What is the meaning of saying that a prior event compels another to occur? And he cannot legitimately assume that he knows the meaning of this where the events are mental and not where they are physical. To the feeling of compulsion he might indeed have referred us, as an exclusively mental impression. But this he does not explicitly do. And the view that habits do compel the mind, not that we feel compelled by them, implies quite a different meaning of necessity, which he might just as easily have derived from the physical events themselves.

This second meaning of necessity, which Hume thus seems to imply, is in fact the very meaning that is involved in the connexion of cause and effect. We do commonly think that when some events have occurred others will necessarily follow; and when we think this, we have no idea in our minds that we are compelled to think so. We do apply the idea of necessity directly to the connexion between two events; and the only question is what is the idea that we thus apply. Hume certainly set out to answer this question, when he inquired what impression it was of which the idea 'necessity' was a copy. But in his answer he was led off into two quite different issues. His explanation is in the first place only an explanation of why we come to think it, not of *what* we think when we do think it. In order to get the latter, he would have had to introduce the feeling of compulsion: as it is, he merely assigns a cause for our belief that there are causes. And in the second place he confuses the question concerning the meaning of necessity with the question of its valid application to successions of events in time. He wishes to deny that there is any necessary connexion between events which are commonly called causes and effects: he holds that they are not necessarily related in the same sense in which two similar ideas are necessarily related. But this is to allow that necessity does mean something other than constant succession: for he does not deny that events have the relation of constant succession.

Hume has, then, certainly given no answer to the question: What is the meaning of that necessity which is commonly predicated of causes and effects? In so far as he tries to explain why we come to think of certain events as necessarily connected, he seems to imply both that there is such an idea as necessary connexion, and that it may be validly applied to certain mental events. But, on the other hand, he holds explicitly that no connexion except that of constant succession may be validly applied to events; and, in the second place, he points out a *prima facie* difference between two events that are thus related and two ideas that have the relation of similarity. In so far as he appeals to this difference he may be taken as allowing that there is an idea of necessary connexion which is not identical with that of constant succession; and this idea may be that which we assert of a cause and its effect, whether it really does apply to them or not. Only by his denial that this is the case—by his assertion that there is nothing in common between the idea of a necessary truth and the idea of a causal connexion—does Hume really contribute anything to the question what the latter means.

We have it, then, suggested that there are two forms of connexion commonly called necessary, and that there is nothing in common between these two; and this view seems still to be held by those who oppose a 'real' to an 'ideal' necessity. In order to decide whether it be a true view, it will be necessary to discuss at some length each of these two forms of necessity, which are at first sight so different—the necessity of necessary truths and the necessity of real causes.

Now the line which Kant took in answering Hume was based, in part at least, on a denial that they were so different as Hume had thought. Kant pointed out that truths, which Hume had allowed to be necessary, on the ground that they were analytic, were, like the relation of cause and effect, synthetic. The truths of arithmetic were both synthetic and necessary, and, if Hume had considered this, it would have destroyed his reason for allowing no common element between ideal and real necessity. Kant, however, does still allow that there are such things as analytic truths, and that they are necessary. Though, therefore, he classes together, as having a common element, two forms of necessity, which Hume had separated, he still allows another form, which may or may not be different in meaning from this. He does not decide the question: In what sense are analytic truths necessary? Now, if we take the view that the sense is different from that in which synthetic truths are necessary, there would seem to be two alternatives open. Either (1) it may be said that 'necessary' here merely means 'analytic'; that the two conceptions are identical. In this case it becomes an analytical truth that analytical truths are necessary; and no exception can be taken to the separation of this meaning of necessity from all others, if only there be any meaning in analytic truths. But, at the same time, this necessity becomes utterly unimportant. It is impossible to draw from it any inferences with regard to the truths that possess it, as that they have superior certainty, or are universal and eternal. For any of these predicates can only be asserted of it on the ground of a synthetic truth. But if (2) we say that the necessity of analytic truths is not identical with their being analytic, then that they are necessary is a synthetic proposition. And only, while this synthetic proposition is necessary, can any analytic proposition be so. Even, then, if there be some special necessity attaching to analytic propositions it is secondary to that which attaches to some kinds of synthesis.

But there is much doubt whether any truths are analytic. Any proposition, it would seem, must contain at least two different terms and their relation; and, this being so, the relation may always be denied of the two terms without a contradiction. It takes two propositions to make a contradiction: the law of contradiction itself excludes the possibility of any single proposition being both true and false, or self-contradictory. And hence the definition of an analytic proposition as a proposition, the contradictory of which is self-contradictory can apply to nothing. If, on the other hand, we take the definition that it is a proposition of which the predicate is contained in the subject, then either its meaning is that that predicate is united in some way with the other predicates, which along with it define the subject: in which case the analytic proposition is as synthetic as you please; or else the predicate is simply identical with the subject. But in this latter case, where the supposed analytic proposition may be expressed in the form, A is A, we have certainly not two different terms, and therefore we have no proposition.

Moreover, the law of contradiction itself, than which nothing is commonly supposed to be more plainly analytic, is certainly synthetic. For suppose some one to hold that Not every proposition is either true or false. You cannot deny that this is a proposition, unless you are also willing to allow that the law which it contradicts is not a proposition; and he may perfectly well maintain that this is one of those propositions which is true, and the contradictory of which, your law, is false, although this is not the case with every proposition. Whereas, if you urge that it is included in the notion of a proposition that it should be either true or false, either your law becomes a pure tautology and not a proposition, or else there is something else in the notion of a proposition beside the property that it is either true or false, and then you are asserting a synthetic connexion between this property and those others.

We may, then, safely assume that there is no such thing as a special necessity belonging to analytic truths, because there are no analytic truths. But I do not wish to deny that the law of contradiction is necessary. Nothing would generally be thought to be more certain or more necessary than this; and hence it will be a particularly good instance in which to examine what may be meant by calling a synthetic truth necessary.

What then is the necessity which attaches to the law of contradiction?

Now there are several other predicates which have been or are commonly associated with necessity as belonging to truths like this: eternity, for instance, absolute certainty, and universality. It may, then, turn out that necessity is identical with some one of these or with the combination of them all. If, on the other hand, we find it impossible to identify necessity with them, there will be some probability that any remaining property which may belong to the truths in question will be that which is meant by their necessity.

First, then, to consider eternity. If by this be meant that the truths in question are true at every moment of time, it cannot be a mark which distinguishes necessary from any other kind of truths. For, universally, what is once true, is always true. Every truth is true at every moment of time; whereas, when we talk of necessary truths, we certainly mean that only some truths are necessary and that others are not. That every truth is true at every moment of time has not indeed been universally perceived; but it needs no long discussion to show that it is so. Truths which have been supposed to be exceptions are such as assert that so and so exists now, whereas it did not exist in the past or will not exist in the future; and it must, of course, be admitted that things do exist now, which neither have always existed nor will always exist. But the *truth* is not the *thing*: the truth is that the thing existed at some moment of time, which we designate conveniently as present or past or future, because we thereby point out its temporal relation to another existing thing, namely our perception of the truth. That Cæsar was killed on the Ides of March, to take Hume's example, if only it be true, was, is, and will be always true: no one will deny this. And it is also true that that particular date was the present once and is not the present now; and these propositions also are eternal truths. For by 'now' nothing more is meant than a particular date, which we all can distinguish from other dates in the objective time-series, by the fact that the perceptions which fall on that date have, when they fall, a peculiar quality—the feeling of presence.

But if, on the other hand, by 'eternal' truths be meant truths which are true at no moment of time, then it would seem that in the same sense all truths are true at no moment of time. This is, indeed, only a more accurate way of expressing that same property of truths, which is popularly expressed by saying that they are always true. For a truth is not to be regarded in the same way either as a particular configuration of matter which may exist at one moment and cease to exist at the next, nor yet as matter itself, when it is conceived to exist at every moment. The truth that something exists, it would seem, never does exist itself, and hence cannot be accurately said to occupy any moment of time. Accurately we should express that eternity, which is the property of all truths, by the negative statement that they are incapable of change, without thereby implying that they are capable of duration.

Eternity, then, will not distinguish the Law of Contradiction from any other truth ; and yet we should be unwilling to say that it was not necessary in a sense in which some other truths may be distinguished from it. Perhaps, absolute certainty will furnish this distinguishing mark.

Now if absolute certainty be understood in a psychological sense, it will not furnish a universal mark. That we are more certain of the Law of Contradiction than of any other truth, I will admit, though it would be difficult to prove it. But then it must be admitted, on the other side, that there was a time in the history of the race when men were very certain of many, particularly the most contingent, truths, before they had even thought of the Law of Contradiction ; when, therefore, they could not be certain of it at all. It is, indeed, remarkable that all the truths, which we now consider particularly necessary, are so abstract that we cannot suppose them to have been thought of or believed in till after many other truths had enjoyed a long lease of certainty. That necessary truths are, then, universally more certain than others, cannot be maintained ; and if it be said that nevertheless, as soon as both are thought of, the necessary ones become at once more certain, or that they are capable of greater certainty, it is fair to suspect that this is said on the *a priori* ground that, since they are more necessary, they must be more certain. Empirical evidence of it is certainly not forthcoming. Yet no one would hesitate to say, for the lack of this, that necessary truths do differ from others. It would seem, then, that certainty, in any psychological sense, can not be that which makes a necessary truth what it is. If certainty be used in any other sense, it may be discussed more conveniently, after we have considered universality.

The universal certainly would seem a more likely candidate, than either of the others, for the honour of identification with the necessary. They have been ranked together by Kant as joint marks of the *a priori*. But here again it is necessary to make a distinction of meaning. For, in the first place, a truth may be said to be universal, in the sense already considered as meant by eternal, namely that it is always true. This, we found, would not serve to distinguish any one truth from any other. We must, then, find some other meaning for universality if it is to be identified with necessity. And we have obviously got a universality of some sort, which is not this, in the Law of Contradiction. For it asserts that every proposition is either true or false ; and inasmuch as it thus applies to every instance of the class 'proposition' it may be said to be universal. But this suggests a distinction which is not without importance. For what is true of every proposition is that *it* is true or false ; it is not true of any proposition that every proposition is true or false ; but it is this latter which is said to be necessary. The necessary, therefore, is not universal in the sense of being a property common to all the instances of a certain kind. If, then, we are to say that necessity is connected with universality, we must say it in the sense that every necessary proposition is one which asserts that some property is to be found in every instance in which some other property is found. But is this true of all necessary propositions ? It would seem it is not true of arithmetical propositions, for instance, of the proposition that $5 + 7 = 12$. For here we assert nothing about a number of instances. There are not several instances of 5 and of 7 ; there is but one 5, one 7 and one 12. And yet we assert a connexion between them which is commonly held to be necessary. It is indeed true of every collection of things which number five that, if you add to them a collection which numbers seven, the whole collection will number twelve. But different collections of five things, are not different fives ; and though a proposition about collections of five things may be universal in the sense in which the Law of Contradiction is universal, that is no evidence that a proposition about five itself is so. It is not, then, true that every proposition about a universal is a universal proposition. For every number is a universal in the sense that it is a property of many different collections ; and yet a proposition asserting the connexions between numbers makes no assertion about a number of instances. It has indeed been suggested that propositions such as the Law of Contradiction might be more properly expressed in a form analogous to arithmetical propositions ; that we should say, not : Every proposition is either true or false ; but : Proposition is either true or false, just as we say : Man is mortal. But there seems reason to suspect that these propositions are really universal in a sense in which arithmetical propositions are not so, and that ‘ proposition ’ is not a property of propositions in the same sense in which any number is a property of the collection of which it is predicated. For even granted that ‘ Man is mortal ’ has a meaning, how can we get from this to the proposition ‘ All men are mortal,’ except by adding that the property of mortality is *always* connected with the other properties of humanity, wherever these latter occur ? Whereas from the proposition that 7 + 5 = 12, you can arrive at the conclusion that all collections of five and seven are equal to collections of twelve, without the premiss that 7 + 5 = 12, wherever they occur ; for the reason, which seems to be true though it will hardly be thought convincing, that 5 and 7 never do occur. For myself, I cannot perceive that ‘ Man is mortal ’ has any meaning at all except that ‘ Man is *always* mortal ’ ; and similarly with the Law of Contradiction, since propositions do not occur in time and therefore cannot be said to be *always* either true or false, the ultimate expression of it would seem to be that *all* propositions are either true or false.

We must, therefore, say that some necessary propositions are not universal in the sense that they make an assertion about a sum of instances, whereas other necessary propositions are universal in this sense. This universality too, then, will not furnish the meaning of that necessity which belongs to necessary truths. But is there, perhaps, some third kind of universality which is common both to the propositions of Arithmetic and to the Law of Contradiction, and indeed to all propositions which have a *prima facie* claim to be considered necessary truths ? There is, I think, a sense in which, not indeed strict universality, but a certain generality may be claimed for all of them. They may all be said to be propositions of a wide application ; and a discussion of what exactly this wide application is will furnish my answer to the question what is meant by that necessity which may be truly ascribed to necessary truths. It will then only remain to inquire what, if anything, there is in common between this so-called ‘ ideal ’ necessity and causal or ‘ real ’ necessity.

This generality of necessary truths is what I take Kant to have established in part of his diverse proofs that they are *a priori.* But whereas he expressly maintains that if you see a truth to be absolutely necessary you may infer it to be *a priori,* my contention is that you can but show it to be *a priori,* and that you then add no new or true fact about it, but only a new name, when you also dub it necessary. The theory, briefly stated, is this : That *a priori* means logically prior, and that any truth which is logically prior to some other true proposition is so far necessary ; but, that as you get more and more true propositions to which a given truth is logically prior, so you approach that region within which the given truth will be said to be absolutely necessary or *a priori.* There will, then, be only a difference of degree between necessary truths and many others, namely, a difference in the number of propositions to which they bear a certain logical relation ; but there will be a difference of kind between this logical relation and any other of the notions by means of which it has been sought to give a definition to necessity. If there be any truths which have this logical relation to all other propositions, then, indeed, the application of these would be not merely wide but absolutely universal ; such, it would seem, is the Law of Contradiction and, perhaps, some others : and these, perhaps, might be said to differ in kind from all others in this respect also. But into this question, which is exceedingly difficult, I do not propose to enter. It is sufficient for my purpose that there are some truths, commonly called necessary, certain axioms of geometry, for instance, which have not this absolutely universal application, but which have a very wide one : and that this, at least, may be said of all necessary truths.

The logical relation, by means of which I propose to define necessity, is one to which constant appeal is made in philosophical arguments ; but the appeal is almost as frequently misused. It is said that one proposition is presupposed, or implied, or involved in another ; and this argument is considered to be final. And so indeed it is, if only the proposition in question is really presupposed or implied or involved. It would seem, therefore, desirable that we should be clear about what this relation, which may be designated generally as logical priority, really is : and such clearness is essential to my definition of necessity. I propose, therefore, to try to point it out, but, without attempting to assign its exact limits, or to give an exhaustive enumeration of the various kinds of logical relation, which may all be justly called by this one name. It needs, I think, only to be seen in any instance, in order to be recognised. Thus when we say: Here are two chairs, and there are two chairs, and therefore, in all, there are four chairs; it would commonly be admitted that we presuppose in our conclusion that $2 + 2 = 4$. Yet it is plain that many a man may arrive correctly at the number of objects before him, in an enormous number of instances, without envisaging the so-called abstract propositions that $2 + 2 = 4$, or $3 + 1 = 4$, or $1 + 1 + 1 + 1 = 4$. These, therefore, are different propositions from those which we commonly make about four objects, and yet they are presupposed in all of them. Similarly, when a man says: This is white, and that is black, and therefore these are different objects; we should say he implied that black and white are different. And this in itself is a common enough case. But if we go farther and say: That things which have different properties are different; this is a principle which is involved in every particular judgment of difference that we make; and we should be unable to give any reason for our judgment that the things are different, except that this and that property, which belong to them respectively, are different. These then are cases of logical priority, and we can determine whether other supposed cases are also of this nature, by considering whether they are like or unlike these. And by no means all cases of inference are of such a kind. For instance, if one says: There has been a horse here: and we ask why; his reason may be: See these hoof-prints. But that a horse made them is by no means presupposed in the fact that there are hoof-prints there. And yet the inference may be perfectly valid: both propositions may be true, and the one may follow from the other. All propositions, then, are not connected by way of logical priority; whereas some propositions are. And what universally marks a prior proposition is that it may be true, even though the particular proposition, to which it is prior, should be false. And thus a logically prior proposition is universally prior both to one false and to one true proposition. And, moreover, what Kant showed is that there are a number of propositions logically prior to almost every true 'empirical' judgment that we make; and such empirical judgments form an immense majority of all the true propositions of which we are cognisant. They cannot be true, unless the propositions they involve are true: but these may be true, even if the empirical judgments are false.

That there is, then, this class of logically prior propositions, and that they approach to universality in the sense that many of them are prior to a very great number of other truths, will hardly be denied. And that they coincide to a remarkable degree with the class of 'necessary truths' seems no less evident. But moreover they seem to coincide with the class of 'most certain' propositions, in any sense of certainty which is not psychological. For any one who is looking for a perfectly certain proposition from which to deduce his system of philosophy will in general try to show that it is logically prior to all other propositions. We may take as an instance the famous '*Cogito, ergo sum*'. Here the conclusion that 'I am,' because I think, is made by way of logical priority: and it really is logically prior. How far Descartes used the same argument in defence of the proposition that he thought, I am unaware: the certainty that he primarily claimed for it is certainly a psychological one, namely that he could not doubt it. But modern idealistic descendants of his constantly claim superior certainty for the '*Cogito*' itself, on the ground that it is logically prior to other propositions. Many will say straight out that thought is presupposed in all existence and all truth, and will draw the conclusion that the existence of thought is therefore the primary certainty. Others will say, in more popular forms: You cannot deny that, whatever you think, it is implied that you do think it; and therefore the ultimate certainty is that you do think it, not that what you think is true: if you deny that you are making a statement, it is impossible to argue with you. Whether or not the statements which are thus argued to be more certain are really logically prior, is another question; but it is worth while pointing out that those who use this argument are admitting the proposition that 'Logical priority is a test of certainty' to be at least as certain as the proposition which they endeavour to establish by its means: this proposition is, at all events, logically prior to their argument.

And so, if we say that no proposition is necessary in itself, but that when we call it necessary we can only mean that it is connected in a certain way with other propositions, it may be asked: But what of this connexion? Is not that necessary in itself? I should answer: Only in the same sense as those propositions, which it makes necessary, are necessary. For every statement of the form: This is involved in that, is itself a proposition; and when we say: If you admit that, you must admit this: they are necessarily connected; we only mean: This follows from that; and the general principle that what follows from a truth is itself true is necessary, because it is implied in every argument. That any one thing does follow from any other is, indeed, not always a necessary proposition: but that, if it does follow, then, if the first be true, the second is also true, is a necessary proposition. It is logically prior to any statement such as: Since this, then that. And such statements are not among the least common of truths.

We have, then, an answer both as to the meaning of necessary propositions; and also as to the meaning of necessary connexion between propositions. The first are necessary when they are implied in a large number of other propositions; and as to the second, it is the proposition that the truth of what is implied follows from the truth of that which implies it, that is necessary. The connexion itself is not necessary, but the truth, that if it is there, then a true conclusion may be drawn, is necessary. It remains, then, only to consider the third class of entity which may be called necessary—the class of things and their connexion.

That, when we call a thing necessary, we mean that it is cause or effect of some other thing, is evident. The question is then of that necessity which is involved in the notion of causality. Whether there be any causes—whether from the existence of one thing you can ever validly infer the existence of another—is a different question. But that if there be a cause, it is necessarily connected with its effect, and that its effect is necessary, will not be questioned. The question is merely of what this necessity means. And my answer to it is, I fear, deplorably brief. For I entirely fail to see that there can be any relation between the two things, except that from the proposition 'The one exists' there is a valid inference to the proposition 'The other existed' or 'will exist'. If it does really follow that, since one thing exists, another has existed or will exist, what more necessary relation can be desired? The supposed 'real' necessity will, then, like the supposed 'ideal,' be reduced to logical necessity. There will, indeed, be a difference. The existence of one thing is certainly not presupposed in that of another: the relation between them is certainly not that of logical priority. If we are to infer the one from the other, it must be on the basis of the principle that whenever it is true that one thing exists, it is also true that some one other thing has existed or will exist. And this principle may itself be necessary, as logically prior to other propositions. But the particular causal inference always requires not only this for its premiss, but also that some one thing does exist. In this, however, there is no reason to dispute that the necessity is logical.

And in maintaining that it is so, we shall only differ from Hume in that whereas he said ‘A thing is an effect when we *do* infer its existence from the existence of another thing,’ meaning only that our belief in the latter causes us to believe in the former, we shall have to say ‘A thing is an effect, when its existence may be *validly* inferred from the existence of another thing, whether we make the inference or not’.

II.—THE DOUBLE EFFECT OF MENTAL STIMULI; A CONTRAST OF TYPES.

By Mrs. Sophia Bryant.

The Double Effect of Mental Stimuli.

A mental stimulus may be more or less successful, or may fail altogether, in producing its appropriate mental effect as a manifestation of consciousness; but we should hardly call it a mental stimulus if it produced no effect on the organ of consciousness, with manifestations of the instinctive or reflex, if not of the conscious, type. A mental stimulus might therefore be defined as an event which may produce a change in consciousness, and which does produce a change in the organ of consciousness. The typical—not the universal—effect is that the organ stimulated reacts in some way on the rest of the organism, and thereby on the environment, and that some change in consciousness is also produced, in consequence of which there may or may not be further reactions later. Thus the typical effect is primarily double. But stimuli may produce only the one or the other of these effects. For instance in all reflex action there is no change in consciousness, while in that vivid but passive hearing and seeing which is I think possible, though rare, there is nothing except this change. The latter case seems to be well exemplified in the extraordinarily vivid impressions passively made by details in the scenes and sounds presented when the active attention is absorbed in thought or feeling as in times of great anxiety or grief. Between the two extremes there are infinitely numerous intermediate degrees in the ratio between these two constituents of mental life, which might for the moment be called conscious and organic, but for which I will presently suggest terms more precise.

The purely organic reactions are unconscious in this strict sense that the mind is not at all aware of their genesis, *i.e.*, does not know anything of their happening before they happen. They are no part of our subject matter except in so far as the question may be raised: Does their occurrence in the organ of consciousness prevent the occurrence of some mental event? Clearly this is but part of the more general question which claims our attention as preliminary to all others. Is it a property in the reaction of an organ of consciousness that its quantity is divisible between the conscious and the unconscious effect, so that the more splutter the less mind and *vice versa*.

This question reaches far. If we answer it in the affirmative, we imply that on the occurrence of consciousness a quantity of physical energy actually disappears from the physiological circulation, taking on some special form, the physical correlate of consciousness, in the evolution of which the principle of the transformation and conservation of energy is exemplified. The organ of consciousness, as such, effects this transformation, and the sum of ordinary physiological energies which stimulate the organ are, in part or whole, transmuted by it into a new physical energy which manifests itself in consciousness. If this be so, then consciousness is practically (though without detriment to the continuity of the laws of material energy) an absorbent of physical energy in the ordinary senses: it uses up the energy which even in a conscious organism might be otherwise employed.[1]

It is well to realise the magnitude of the question: thus, we get a clearer view of the generality attaching to the answer. If it is ever true that consciousness uses up energy, it is always true, notwithstanding appearances to the contrary in the vicissitudes of a very complex being. The explanation of such appearances forms however a topic in itself.

Is there then any evidence to show that on the occurrence of a mental event increase of consciousness *per se* has the direct effect of diminishing either outgoing or interorganic activity, or both? To take the simpler case first, are the muscular manifestations reduced as the consciousness deepens?

At least there are many indications that this may be so. Absolute quiescence is favourable to intense thought, and more obviously to intense feeling. Concentration of mind brings on a stillness in all the muscles, which is broken only in so far as muscular movements are modes of expression necessary in some measure for the development of thought: the ear, the eye, the muscles of articulation and even of gesticulation may be drawn into play. But herein the mixed nature of thought comes into play: it swells by concentration deepening in itself, but it grows by expansion developing beyond itself: while based on the concentred passivity of the inner sense it consists in the active co-operation of all sensibility.[1] Nevertheless the central fact of quiescence in deep thought remains significant; for the characteristic of deep thought is the endeavour to win a more intimate sense of the things that are in mind. In this endeavour the activity of thought itself seems to be stilled: we listen inwardly and stay our thinking.

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[1] It should, of course, be remembered that equality is not to be expected between the external stimulus and the sum of physical and psychophysical energies evoked. The organism as organised stands in fact for so much potential energy, and it recruits its stores by nutriment from the environment. The chief function of the stimulus is to let loose this potential energy: it is an agent for the conversion of the potential into the actual.

In deep feeling the quiescence of movement is still more obvious, except when the feeling is painful and rouses effort to be quit of it. Such effort is often indeed no more than a restless activity undertaken to dissipate the painful concentration of energy, and this tells in confirmation of our general view. Sometimes feeling of even the painful kind is so great that there seems to be no energy available for an effort of dissipation; and this, I suspect, is not only because of the exhaustion of pain as pain. Pleasant feeling, however, supplies the test case because it is feeling that tends to sustain itself, and no one having had both experiences would hesitate to say that the joy which makes one jump for joy is less intensely felt than the joy which is enjoyed in the full silence of quiescence.

The evidence of these immediate experiences can only be found by careful introspective observation of each one for himself. It is necessary, however, to be sure that, in a hurried hyper-active life, we ever give ourselves opportunity for moods of deep thought or sustained feeling. In some ways the negative test may be more readily available. To dissipate feeling, to escape from thought, physical exercise is the most effectual of all methods. I find it almost difficult, even when I desire it, to take a simple walk and think deeply. The man who thinks and walks conjointly—a wholesome practice and certainly effective when the brain needs to be stimulated through the circulation—will be found to pause at the deep points of his thought, though it may help him to walk hard and thump the ground at the knotty points of an imaginary argument.

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[1] Muscular activity has no doubt a certain efficacy in stimulating intellectual activity due to the effect of exercise in stimulating the circulation; and this effect is probably favourable on the passive as well as on the active side of mind.

Indirect evidence is not rare though less certain. It has its use as cumulative in building up a basis of probability. Exuberant expression is well known to go often with shallowness of feeling, violent exasperation with little real anger, plentiful grumbling with slight discontent, irritability with insignificant irritation. The last case is very curious: we sometimes encounter persons so full of perpetual quiet quarrelsomeness with the small incidents of life—the weather, the gnats, the hardness of their beds, or the softness, the air, the food, and all minor things—that we tire ourselves out by sympathy with the sufferings of their ill-balanced physique. But it is only we—not they—who are seriously worried. They do not "worry" really in themselves: they only worry us. More strictly the expression is out of all proportion to the consciousness: the incidents do upset them, but most of the irritation escapes in external irritability. The person in marked contrast suffers irritation as such with the minimum of outward show, until the point is reached when the will comes into play to do something. The poets know this when they tell us in many ways of the "grief too deep for tears," and to common experience it is very familiar.

> A grief without a pang, void, dark and drear,
> A stifled, drowsy, unimpassioned grief
> That knows no natural outlet, no relief
> In word, or sigh, or tear.

On the other hand it must be remembered that expression of feeling is frequently a stimulus to further feelings of the same kind: the worrying people worry themselves from the outside, by magnifying their troubles objectively. Self-control restrains the excess of feeling in this way, though the persons of good natural self-control are likely to be so partly because of deeper natural feeling.[1]

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[1] The following example is curiously definite. Two friends A and B compared notes as to their experiences on the extraction of a tooth under the influence of nitrous oxide. When A revived after the operation, the dentist said: "I fear it hurt you badly in spite of the gas". She looked up surprised and said: "I never felt it at all". "Well," he said, "you screamed like one in agony." In B's case there were two teeth. On reviving she began the conversation by the remark: "That second one was much the worst". This time the dentist was surprised, because the comment was true. "Surely you did not feel them?" he said. "You were so perfectly still and silent." She had felt them vividly and distinctly, though not for what they were, and the difference in conscious disturbance between the two operations was specially conspicuous. It would seem that in these two persons to feel meant not to scream and to scream meant not to feel.

Thus there is ground at least to suspect that one fundamental contrast in mental type arises out of difference in the distribution of psycho-physical energy between manifestations of physical and of psychical life. The contrast may be partial, affecting some manifestations rather than others in the persons compared, but probably it occurs more readily as a general characteristic, and it is thus that it concerns us here. An explosion of energy takes place in the organism. In the one type the greater part passes on to do something at once. In the other the greater part passes into consciousness, and if an act emerges it is a conscious, a considered, act. Between these two extremes there may be all grades in the ratio of distribution. Thus one person may be in any degree more conscious of his disturbances than another, whatever the disturbance, and if our analysis be correct, he will be less physically agitated in a corresponding degree.

A question now arises which must be faced, even if we can only parley indecisively with it. Is the intenser consciousness after all only due to a higher degree of centralisation in the organism? Is it that to a greater extent disturbances, wherever occurring, pass through the centre (which may be a metaphorical way of saying that they reverberate through the whole) so that the effect is a more completely organic effect and therefore more conscious, ending in considerate action if in action at all? Obviously, if there occurs this widely-reaching organic disturbance, the activity that follows will be a more adequate translation of the stimulus into the agent's language of act. Also there would be more consciousness, the points being many instead of few. But such an increase of consciousness has the form of multiplicity. We know it in experience as different from intensity. Comprehensiveness of sensibility in a momentary experience is one thing; depth of sensibility quite another. The great man's gift of insight is both. The two are not opposed as shallow novel writers sometimes seem to assume, the one turning probably on unity of organisation, the other on this quality now under consideration for which we claim an independent existence. Certainly it would seem from experience that this widening of effect may occur without a deepening of consciousness to correspond. All highly-organised instinct bespeaks centralisation: instinct may be so highly organised that the act is adequate to the best reason of the man, and yet takes place unconsciously. Even in our intellectual work much that we do, as part of some highly-wrought intelligible whole, is done with a minimum of consciousness, *i.e.*, without an idea of it before it is done. We add mechanically; we spell very mechanically; we even accomplish the routine of thinking mechanically. Certainly the flow of words in public speaking partakes often of the mechanical nature. Unity of organisation seems indeed favourable to the economy of consciousness;[1] and this consideration confirms the view that the deepening of consciousness is a qualitative process *per se* depending, not on the sweeping action and reaction of centre on centre, but on the transformation of energy within the centre concerned.

I suggest, therefore, that life being partly of the nature of highly-organised, fresh and in effect intelligent instinct, and different persons apt to *act* similarly and with equal freshness under the same circumstances, the one consciously and the other unconsciously—the latter action being the more rapid and easy—there is reason to think that any part of the mind organ, and the whole of it, may work either instinctively or consciously. In the latter case, energy is transformed within the centres and used up for consciousness, less energy remaining over to work upon allied centres. Thus the wave of disturbance is stilled as it spreads, and so not only should there be less muscular activity, but even the activity of thought itself may be damped to pay the price of a deeper consciousness. To such a conclusion the facts seem at least to point. We look to psycho-physical observation and experiment to make the truth clear.

Some contrasts of character become immediately explicable, as also contrasts in the mood of the same individual. The shifting nature of such contrasts—the modifiability of the extreme types—is no less intelligible. If consciousness corresponds to a transformation of energy in the centres, the element in attention which conduces to more vivid consciousness is the practice of effecting this transformation; and the universal result of continuance in practice is towards spontaneity. Much-practised centres will become at last more spontaneously conscious, yielding up their innerness whenever stimulated. Consciousness, like Virtue, can be increased by practice. So also can unconsciousness by the practice of excessive activity.[1]

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[1] It seems to be indubitably a fact that the most reasonable thing under even new circumstances may be done so that we do not know that we do it until it is done. Moreover it is then done more aptly, more swiftly—with less expenditure of time and energy. Here is a test case from my experience, occurring by accident as all valuable test cases in psychology must. One morning, when I was riding a bicycle with confidence through unfrequented streets, a butcher's cart suddenly appeared from a cross street being driven rapidly, as I was riding rapidly, so that we were due to meet at right angles with the utmost precision in the middle of the street. It was quite impossible for either to draw up in time. That is all I knew till the next instant I found myself safely round the corner, and dismounting in a line parallel to the cart which the boy just succeeded in pulling up at that point. I had done exactly the right thing, and to my own considerable astonishment, because I had no idea of the act, and the position was one of which I had never happened to think beforehand. Here then was a highly intelligent action perfectly new, and absolutely unconscious. To persons of a more instinctive type similar experiences may be quite familiar.

Definite terms are convenient. Let us therefore distinguish between these two forms of agency—the transformation of energy within the brain-centres and the transference of it by stimulation to other centres—as æsthesis and kinesis respectively. Both are of account for the processes of mind: the former is what makes it mind, the latter is the vehicle by which mind as sensibility becomes mind as thought. The æsthesis of many centres goes to make a thought, but without their kinesis, their interaction and therefore their conjoint æsthesis, thought would not be possible.

CONTRAST OF TYPES.

(1) First and most obvious is the contrast between a mind that is in general characterised by the instinctiveness of its life, and the more slowly-moving, deeply-feeling mind with life proceeding generally out of consciousness. Each has its excellence according to the purpose in hand. The best mind is neither, because it is in due measure both; can act instinctively under the spur of danger or other necessity; does act with consciousness when occasion requires. Even a best mind may have its congenital tendency: it may be a deeply-conscious mind, so well controlled that pressure enables it to be instinctive; or it may be an instinctive mind trained to the prudence of pause and subjective attention. The error of the instinctive is haste: the error of the highly-conscious is actual defect of energy to act or think as in one paralysed by too much feeling.

Who has not suffered from both these errors—from the one in himself, from the other in his acquaintances. Not seldom is one met who has suffered much from the sheer exhaustion of being so vividly conscious of the thing to be done that he has no energy left to do it. Nor is his lot alleviated by the fact that his nearest relative exemplifies constantly the opposite type.

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[1] Attention is probably a double fact, and the effect of attention which makes for intelligence is of the nature of activity, and thus probably not favourable to pure sensibility *per se*.

(2) Second, though probably not independent, is the contrast of æsthetic and kinetic in prevalent habits of intellectual life. One is deeply conscious, the other full of intellectual activity. In the first case, ideas are very vivid, swift enough in impression, but slowly formed, and their connexions are much less stable than themselves. The flame of consciousness burns strong and bright, but there is little of the lightning flash from point to point. This is the seeing, hearing, deeply-feeling mind, of perceptions rich in variety and colour, of a musing fulness and intensity of life. Such a one is not *quick* of wit: neither in logic nor in fancy does his intellect show high pace. Nor is he apt at the manifold suggestiveness of thought. An experience is itself to him so vividly that it does not suggest other experiences so much. His thought is deeply conscious, not aptly associative.

And this, whether he be broadly imaginative or not. Breadth of imagination, whether manifested in sound common sense, in far-reaching imagery or in width of thought, would seem to depend on structure of brain, rather than on quality of the centres generally. The æsthetic mind as here conceived may be broad or narrow in its experiences, may be concentrated or expansive, complex or simple, in its momentary states. Its characteristic is apart from these varieties, and consists in the full flush and the correlative unsuggestiveness of each experience.

In the opposite type this characteristic is reversed. The full flush of a deep sensibility is absent, but the experience flows over readily in suggestions: memory, imagination, intelligence play the major part in even those perceptions that lie nearest to the sense. In the extreme type the mental manifestation in all its parts is very thin. Though it echoes so widely—or rather because it does—there is very little body or depth of consciousness in it. Hence ensues an effect of cleverness that yet leaves no impression of weight or wisdom. Associations of thought are swift and accurate along habitual lines, fancy is apt enough, logic sound, but, since the depths of possible consciousness remain untouched, all deeper analogies are missed, and more especially there is a total lack of those deep emotional associations on which depend, though in different ways, the Poetry of Imagination, the Unity of Thought and the Practical Wisdom of Social Life. Just as excessive æsthesis implies the stagnation of thought, so excessive kinesis implies the starvation of feeling, and hence an incapacity for passion and purpose which, amidst much intellectual activity, shows itself as indifference to the Ends of Thought.

Obscure metaphor in literature owes its inaccuracies to imperfect consciousness of the things compared. I think it is a case in point when an eminent thinker speaks of the mind of man as "turning upon the poles of Truth". It would seem that there can be no clear consciousness of anything corresponding to this phrase. Compare the vivid insight that gleams in the untutored similes of the Celtic peasant. "The thought came into my mind quite sudden," said a Kerry man, "just as the sun shines out all at once on the mountain side." Carlyle abounds in striking examples. For one he compares the Reign of Terror to the black spot caused by a well spring which increases the more one tries to stamp it out. Really beautiful metaphor is always of this vivid, deeply-conscious kind, uttered in full sight of the things compared. Failing this, we may admire the great German poet whose peculiar merit is his abstinence from simile, his mind being wholly given to saying, not what the thing is like, but what it is. This characteristic of the poet Goethe argues a depth of æsthesis in him which corresponds also to his interest in the concrete, his dislike of the abstract, and to those indications of intellectual inertia which made him so prone in earlier life to collect material rather than to build. Schiller, less deep, less resonant, had more creative impulse—probably more kinesis, though not therefore in excess. That Goethe was on the whole of the æsthetic type I do not doubt. Perhaps the poet to be a great poet—as also other seers—must lean that way.

> He saw through Life and Death, through Good and Ill,
> He saw through his own Soul.
> The marvel of the Everlasting Will
> An open scroll
> Before him lay.

(3) Some differences in memory as between one person and another may be inferred from this divergence of type. Retentiveness is probably a fundamental quality which varies in degree, so that all other things being equal one mind retains its mental impressions longer and with more certainty than another. But the very wide-spread popular notion that defects of memory do argue some defect in the vitality of the original impression at the instant, points to a truth. This vitality as we have seen is of two kinds—the impression may be brilliant or it may be lively. The memory of it, therefore, may naturally be expected to show traces corresponding. And by this it is not merely meant that the revived impressions will reproduce the character of their

originals as brilliant or lively. The conditions also under which revival occurs differ in the two cases.

It seems to be a fact of experience that impressions endure throughout a lifetime with more or less certainty in proportion to their original degree of consciousness. A healthy vigorous person expects this durability of consciousness in himself—whatever has been conscious is in some sense in his mind. The conscious effects are, as it were, more durable. Physical shocks take place in us every day, and we outgrow them. More precisely the life of the organism as determined towards some physical type keeps its way and holds its own and thereby nullifies many minor effects wrought in it from time to time. Unconscious nature "takes no notice" of small distractions.

But a distraction which wakens consciousness works an effect the nature of which is to last through life. We speak of such an effect as entering into the life-experience and think of it as not extinct even when forgotten. We know that, however long past and seemingly completely forgotten, it may turn up again under stress of great excitement or under circumstances peculiarly suited for its revival. Thus there is a peculiar relationship between consciousness and durability.

From this it would seem naturally to follow that impressions are more durable in proportion as they are more vivid. Or, in other words, the more the element of æsthesis preponderates in the reaction on a stimulus the more durable *per se* the consciousness is. We might even say that to be conscious of an impression is to store it. By a deep consciousness to-day I may store an impression which to-morrow, being still present, begins to work in stimulating other reactions. This postponement of mental activity, *i.e.*, kinesis, is indeed a commonly-observed fact. In my experience it clearly goes with great concentration of consciousness. Mental activity for the time is almost non-existent, but the impression lasts with undiminished force till, perhaps days later, it becomes the centre of thought. Whether its vividness is reduced or stimulated by this late-coming activity depends on the nature of the case as determining whether the circles of thought move simply from it or return to it with fresh stimulus. I have noticed that the effect of much practice in immediacy of action, as when decisions have to be frequently and swiftly made, is to diminish the æsthetic factor in experiences generally in proportion as the opposite habit becomes easier.

It would, however, be premature to decide that the æsthetic type has all the advantages in the way of memory. Totals of experiences that have subsided into the subconscious state are recovered by the stimulus due to new impressions which are partly identical with them. There is an element in the new impression which has occurred before, and this element by its kinesis restimulates the other elements of the old impression, hence reinstating it as a whole. Thus the reinstatement of the old turns upon (1) the implicit analysis and (2) the kinesis of the new. The latter fact it is that interests us here, since it points to the conclusion that the kinetic type of mind is favourable to memory under its other name of *recollection.* The æsthetic type stores more securely; the kinetic type recollects what is stored with more ease.

Since the ordinary play of memory consists in bringing back impressions that had passed out of consciousness for a time, it might seem now that the kinetic type has the advantage in the ordinary operations of memory, although more liable to oblivescence than its contrast. Before deciding this point completely, however, we must inquire whether the process of recollection by the association of old with new is the only process by which the old is revived. Is there, besides, a process of spontaneous revival?

It is difficult to deal experimentally, or even in the experimental spirit, with such a question as this. There is no doubt that memory occurs through the association of ideas: we all observe this every day. Here, therefore, is a cause by which we seek to explain all the cases that occur: and no room is left for the hypothesis of spontaneous revival unless we find cases which cannot be thus explained. Now it is very difficult to be sure that associations, more or less obscure, have been absent in a case of apparently spontaneous memory. Sometimes the associations are very obscure, as we know by our failure to discover them at first, though we do find them in the end with certainty.

Nevertheless we must not conclude too hastily. Sometimes we do find ourselves with a memory whose genesis at that moment we cannot account for, and it is noticeable that such memories are marked by vivid æsthesis in their originals. Scenes that have impressed me very much, such as the dawn on Monte Rosa seen from the opposite slopes, or the Atlantic colours on the Irish west coast, seem to keep a perpetual existence so near the threshold of consciousness that they have a continual tendency to rise above it of their own accord, and do so in many fresh and vivid moments. It should be noted that there is a sense in which any present moment may recall by association any moment past, since both have this element in common—my personal consciousness of self. And certainly those apparently spontaneous memories do very often go with present moments that in some way or other make me vividly self-conscious. They may appear then as part of my life history when my thoughts turn to it. Their exceptional vividness in the first instance would tend towards their annexation to this content.

The best examples that occur to me are certain experiences of brilliant scenic colouring which come into my mind at odd moments, apparently from nowhere—a scene near Loch Vennachar after rain, and an unusual bit of fine sea-colour off the rocks near Filey, besides others already mentioned. I am sure I have seen finer examples of colour than these, but they happened to produce a very vivid consciousness at the time, and have, I think, for that reason become representative to me of a stage of development in my æsthetic perceptions. They are part of my history, and thus associated with each point of my history as it occurs.

This suggests the further reflexion that the work of consciousness as a ground for persistence in the effects of stimuli might be regarded as turning these effects into a life history, *i.e.* giving them that form of inherence in *one* person's experience, from which it follows that each is revivable by association when in any new event the mind concentrates on the fact of that person as experiencing it, provided that this kind of concentration was present in the former event.

To the fulfilment of both these conditions the æsthetic type lends itself by its vivid penetrative consciousness. What may be loosely described as the play of spontaneous impartial memory should belong *par excellence* to it, even if there is no spontaneous memory strictly so called. If, however, there is such spontaneity—and we cannot exclude, even though we may not assert, this hypothesis — it would seem probable that a consciousness vivid in the first instance would sink more slowly towards the level where it ceases to be easily revivable.

Thus our two types yield two kinds of excellence in memory. The æsthetic excellence is endurance, certainty, a fulness of detail and concrete sanity of flavour, combined with a spontaneity which is at once delightfully brilliant and erratically irrelevant. "Have I a good memory?" said an eminent divine to me in answer to the question. "My memory is a great deal too good for my purpose. I remember everything, doggerel rhymes, the order of the boats on the river, the shop windows, the last number of *Punch*, and they pour themselves out on my unhappy mind—these things—when I am preaching a sermon, or otherwise seriously engaged." This kind of memory might be called subjective, following the hint that its associations are rooted in personality.

The kinetic excellence, on the other hand, is an orderly memory essentially objective, in which images are recalled with the emphasis on their associations, and in which lack of brilliance is compensated by liveliness. There will be varieties in such memory according to the predominant habit of thought, but it will always be relevant to some issue great or small. Whatever the dominant habit may be, the memory takes place through similarity always. Variety between persons arises in that preliminary part of the process which has been barely mentioned, the analytic attention which deepens consciousness to association-point on one element of the new experience rather than another. Of this variety there is not time to speak now.

In concluding the treatment of this subject one further suggestion remains to be made, though in a tentative spirit only. If consciousness corresponds to a particular kind of concentration and transformation of energy, with the effect of making the particular disturbance at one with all other disturbances of the same kind that has taken place in the individual life history, the extent of this transformation of energy does doubtless affect the form of the further disturbances following on it. The deeper consciousness probably initiates a wider spread activity reaching physiologically it may be to parts of the brain left free from the regular play of the superficial kinesis—parts which may be conceived as reverberating freely, not being devoted to particular sensory or motor functions as the other parts are. That there are such parts corresponding to the frontal lobes of the brain seems probable from physiological research. The suggestion here made is that when consciousness as such is intense these are more stimulated, and thus act as *organs of reinforcement to consciousness more particularly*, being not mapped out for any special processes of thought. This suggestion is consistent with the well-known observation that their development in man goes with mental power and also with the fact that their loss in animals is followed by a general enfeeblement and not by any particular loss of motor function.

If this be a view of the matter conforming to truth, the æsthetic type of mind compensates for the thinness of its first reaction by its power of stimulating secondary reactions of reinforcement later. This with its greater ability to store impressions that may, as stored, become the centres of activity postponed till a convenient season, constitute a kind of talent not less useful than that of the more practical, swiftly-thinking, lightly conscious man.

III.—VITALISM: A BRIEF HISTORICAL AND CRITICAL REVIEW (II.).

By Dr. Charles S. Myers.

A Criticism of Vitalistic Theories.

A truly scientific theory has been usefully defined as the condensed expression of perceptual knowledge in conceptual formulæ. Terms like Atom, Molecule and Ether are not perceptual. Could they even be shown to exist, could molecules one day be felt, seen and weighed, inquiries would be merely transferred a step farther back and the argument continued in terms of molecular instead of molar experience. They are pure conceptions based on the evidence of the senses. Scientific theories may be thus regarded as a shorthand in which the entire phenomenal world is expressed (15). Whence it follows that a just appreciation of any particular theory can only be made, by considering it—just as an event of history would be considered—in the atmosphere wherein it flourished, by calculating the extent of knowledge whereof it was the mere summary, and by estimating the worth of such current theories as it had to oppose. Accordingly the following pages will be devoted to the criticism of modern vitalistic theories (which really contain within them all the essentials of earlier speculation), while the more detailed consideration of older theories will be deferred until another opportunity offers itself.

It may here be considered why the riddle which Life offers Sphinx-like to mankind has been in turn attacked, now by Metaphysic, now by Natural Science, in the vain hope of a successful solution. For it is not without reason that two such apparently opposite methods have been brought to bear on one and the same perplexity, and that consequently the language and thought of each have been influenced by the other.

At the dawn of the objective method, when the resolution of complex phenomena into simpler constituents was commencing, an inquiry into the nature of movement proved the first stepping-stone to bear the philosophic mind across to subjective contemplation. "I have a feeling of resistance," reasoned the primitive physicist, "when a moving object meets my body. This must be the cause of motion; for, when this resistance or 'force' is communicated to my body, the object loses its power of movement." Thus force, purely conceptual in its origin, became falsely endowed with all the qualities of a visible tangible substance, and, even so late as Schelling, was considered the material cause, instead of a sensory effect or equivalent of movement. The term 'cause' came also to be employed in another connexion —as identifying the last link that completes a chain of events and renders possible a familiar and hence an apparently simple phenomenon. Both uses of the word, have led to the same result—the pursuit of the Ultimate Cause of Things, *τὰ πρῶτα καὶ αἰτία*, wherein the human mind has called in the Why of Metaphysic to supplement the unsatisfying How of Natural Science.

Natural Science can never offer more than a description of things. "Science," says Claude Bernard, "never ascends to first causes: and like that of all others, the first cause of life escapes us." Even the theory of evolution, which in its early days was regarded as the panacea of all ignorance, turns out to be a mere demonstration of the manner and not of the cause of working nature. So, too, while Kant's assertion that even a second Newton could never reveal how a blade of grass grows is likely some day to be disproved, the task of determining why it grew must remain ever outside the limits of Natural Science.

Not only for this purpose has Metaphysic been invoked, but also for the purpose of explaining the nature of Mind. Psychologists have complained that Mind can no more pronounce on its own nature than a ray of light can see itself or a wave of sound can hear itself (16); and that, after every link in a given chain of molecular disturbances within the brain-cortex has been laid bare, not the slightest advance will have been made towards an interpretation of the thought or sensation which accompanied those disturbances. The position assumed by such writers and their teaching of the independence of objective and subjective psychology (*i.e.* of neurosis and psychosis) appear to arise from an insufficient consideration of the nature of all natural knowledge. It is true that the states of consciousness during any process of psychosis are widely different from the states of consciousness by which are expressed the neuroses or the elements of that psychosis. But so, too, do the states of consciousness derived from a falling body differ from those arising from an equivalent amount of heat. In the physical world the states of consciousness derived from heat, light, electricity and magnetism are commonly expressed in those derived from matter and motion. The same aim directs the attempts of psychology to give a like rendering to the states of consciousness derived from psychic activity. To posit several forms of activity in terms of one other form is to describe, not to give an ultimate explanation. To do this and to determine the relation between such various forms of activity are the sole aims of Natural Science.

By similar arguments may be met the complaint of the vitalist that after the properties of life have been described in terms of matter and motion—after the entire phenomenal world has been expressed in vast mathematical equations—no nearer approach will have been made by Natural Science to a solution of the world-riddle (17).

It will be interesting briefly to consider in this place a few of the attempts which have been made to span the gulf between ultimate and scientific explanation. Here as everywhere the human intellect has shown its eagerness to buckle on the brilliant wings of speculation and to soar, heedless and unrestrained, beyond the restraining power of experiment and observation; until, Icarus-like, it is compelled to descend to its proper level before the fierce glare of logic and verification. Various ages have seen sporadic attempts to combine under one comprehensive system the contradictions of materialism and spiritualism. Emanating from Maupertius and Robinet, and elaborated within recent years by Clifford, v. Nägeli, Carus and others, these efforts have culminated in a Monism, which essentially teaches that all matter is endowed to a varying degree with mind and that matter and mind are the two sides of some one thing, unknown and unknowable (18, 19). A similar conception has been applied to the nature of life itself. It has been urged either that inert matter is animated with something "which is not life but which may develop into life," or, as Glisson once said, "Materiam non esse tantum naturæ vitalis capacem sed et actu vivam".

The absurdity of the view that an inherent vitality is spread through the universe becomes sufficiently evident, if "life" be for the moment viewed objectively as a group of definite sense-impressions. With equal reason might the elements of the smell of ammonia be accorded to a mixture of nitrogen and hydrogen, although it is clear that neither of the constituents of ammonia can contain in itself that altered molecular vibration, which arises from chemical union and is held to produce the characteristic odour of the compound. Similarly, the phenomena of life, as revealed to consciousness by certain movements inherent in peculiar atomic combinations, cannot justifiably be extended to include the latent half-developed properties of matter in general.

In point of fact the word "life" tacitly conveys a far wider signification here than it avowedly asserts; the objective is forsaken for the subjective standpoint. Surveying the working of the universe, observing the evolution of individual and of race, recognising nature's attempts at repair and the marvellous compensating mechanisms of disease—man has not hesitated from the first dawn of knowledge to declare that there is something in the universe far greater and nobler than matter and motion. Reading the consciousness of his own actions into the antecedents of phenomena of the external world, he has imagined a universal Will in nature and above all a principle of Design. Just as he has at one time assigned "mentality" in some form to the humblest atom upon earth, so at another time Man has invested with similar powers the subject of the loftiest conception which is possible to him. Pantheism and monotheism rest on the same psychological basis. The sensations of the effort of Innervation and of Will seem to man the source of all energy; and when he finds himself surrounded by a universe whose parts fit together with an accuracy surpassing that of human skill, he must needs infer the working of an intellect of preternatural prudence and strength.

This course of subjective reasoning naturally became extended to the phenomena of life itself. To those who could find no room for the application of a hypermechanical force, whether spiritual or material, there still remained the conception of vital principle as a directive agency (20), perhaps as an "engine-driver who does not draw the train himself but by means of certain valves directs the course of the steam so as to drive the engine" (21), or as an "antecedent cause" which "controls or directs or governs the forces of matter . . . and is separable from the matter with which it is temporarily associated" (14).

It has been already indicated that the popular notion of cause has no authorised *locus standi* in Natural Science. The sole method of Natural Science is integration. In terms of space and time as afforded by visual and tactile sensations—in the common language of movement—she endeavours to express the entire phenomenal world. It would seem indeed that the various activities manifested in heat, electricity, magnetism, etc., which various sensations differently interpret, are capable of being described in terms of each other; and analogy naturally would extend this process of correlation to vital phenomena themselves. At present, however, various considerations can still be brought forward to make at least a temporary retention of the word "vital" desirable.

With some show of truth the vitalist may maintain that if the physicist erects an atomic structure wherein are embodied various properties of matter, he himself has the same right to endow an equally chimerical special principle with the manifold characters of life. Without doubt he has this right, as indeed the chemist may legitimately extend it so as to speak of an aqueous principle in water or of a calcareous principle in chalk, if the figure of speech may be of service to him. That Natural Science does not object to the employment of the concept for *descriptive* purposes is sufficiently demonstrated in the case of the principle of "nascent action" which, for a long time accepted as underlying many unusual chemical actions, has at length been replaced by an extension of mechanical terminology.

Physiologists have often availed themselves of this licence. Following the custom of physicists in their use of the term "force" as a convenient mathematical abstraction, they attribute to certain phenomena vital force, vital energy or vital action, where physical and chemical forces, energies or actions are as yet inadequately discovered (22). In this sense all varieties of so-called automatic activity have been ascribed to the energy of the vital principle. Similarly, certain observers have distinguished physiological (*i.e.* vital) from physical osmotic action within the intestine. Other observers, again, have insisted on the vital nature of the process of gaseous change within the lungs. And there are many further examples. But throughout, this usage of the term "vital" merely implies that the phenomena in question are each the expression of an appropriate system of forces which, even if it be nothing more than a complex composition of ordinary mechanical forces, yet represents activities apparently so different from lifeless movements that it seems at present desirable to reserve for the force some special epithet.

On the other hand, there have not been wanting those who are ready to exceed this privilege. Vainly confident that the mere invocation of a special force or principle can explain the obscurest of natural phenomena, many physiologists have only been too eager to console themselves with the working of a *vis* or *ens vitalis*, where failure had otherwise stared them in the face. Instead of endeavouring to improve the sensitiveness and the accuracy of their instruments or to reduce the complexity of experimental conditions, they have chosen the easier course of attributing all their troubles to the action of some force which lies confessedly far beyond their comprehension. Year by year this practice has continued unchanged, although year by year the intrusion of mechanism into physiology becomes increasingly evident. Perhaps of all phenomena, formerly deemed "vital" and now described in physical language, ferment-action is the most striking. (This will receive closer examination almost immediately.) Another example, where similar but less marked progress has been made, is the process of absorption. For it seems fairly evident, much as has yet to be learnt concerning the rates and general nature of osmosis and dialysis, that Heidenhain's "physiological osmotic action" is a process of a mixed quasi-chemical and physical nature and, in this respect only, differs from the purely "physical osmotic action". The state of continued chemical instability of the living substance, whereby the composition of the living membrane and the consequent osmotic changes are never constant for two successive moments; the influence of metabolic processes on the composition of the fluid transferred, so that large quantities of a given substance may conceivably be built up into more complex bodies and afterwards reduced to their former simplicity on the other side of the living membrane;—all these and similar obscure factors are likely in the near future to be determined. Meanwhile certain writers, bearing in mind that osmosis and filtration as at present understood are incapable of offering a satisfactory explanation of the phenomena in question, are justified in describing these processes as being in a sense the servants rather than the masters of protoplasmic activity (23). It cannot be too strongly insisted, however, that "everything is specific which we cannot explain, and dynamic is the explanation of all which we do not understand: the terms having been invented merely for the purpose of concealing ignorance by the application of learned epithets".[1]

Physiologists have long been acquainted with a class of substances which appear to be endowed (under suitable conditions) with almost unwearying chemical activity; and, owing to the fact that they occur in inappreciable quantity, are recognisable only by their effect. Like protoplasm, they have never been synthetically prepared, nor have they been isolated in a pure state. To bodies of this class have been given the name of ferments or enzymes.[1] The recent researches of Emil Fischer (24) and others on ferment-action have brought to light many curious details of the process. It has been found, for instance, that one ferment will completely convert a given glucoside into sugar, while another ferment will only convert it in part; and on the other hand, that one of two bodies having the same molecular composition but slightly different molecular configurations will be zymolised by a given ferment, which will leave the other body untouched.[2] Fischer was led to consider this apparently selective ability on the part of enzymes during his laborious investigations into the synthesis of the sugars. Availing himself of the past work of Le Bel and van't Hoff on the relation between optical activity and the asymmetry of intramolecular carbon-atoms, Fischer sought to establish the direct dependence of (hydrolytic) ferment-action upon molecular configuration. He showed how it was possible for optically active bodies to combine with other simpler substances and to build up still more complex optically active bodies. He demonstrated the profound influence on zymolysis exerted by racemism or other optical modifications, and finally he concluded that the same definite relation must subsist between the molecule of glucoside and the molecule of ferment, which obtains between a lock and its key. The door of chemical reaction can only be opened when the two molecules fit thus accurately together. At that moment molecules of still greater size are formed, until finally, aided by the reaction of the external medium and the simultaneous addition of the elements of water, they break down into the original enzyme-molecules and the products of the ferment-action.

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[1] Surely these words of Justus *v.* Liebig compel the famous chemist and vitalist to be hoist with his own petard.

A similar train of thought appears likely to throw considerable light on the mode of growth of living substance.[3]

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[1] Of the two kinds of ferment, organised and unorganised, only the latter is dealt with throughout this article. It is fast becoming recognised that the action of so-called organised ferments has a twofold character, resulting partly from direct metabolic (excretory) changes within the organism and partly from the influence of secreted unorganised ferments.

[2] Zymolysis is the action of a ferment or enzyme. Glucosides are substances yielding sugars by the action of alkalies, acids or enzymes.

[3] In this connexion I gladly acknowledge my obligations to Dr. Ruhemann of Cambridge. Since the above was written, further chemical speculations and discussions have appeared, which necessarily find no mention here.

Given a protoplasmic molecule whose huge unstable structure contains numerous asymmetric carbon-atoms, this molecule may conceivably be ever adding to itself from the external media and be forming a still more complex and unstable molecule, *pari passu* with the increasing number of asymmetric atoms. At length, however, division of the molecule must come about, and two new molecules are formed; that is to say, the protoplasm has undergone metabolism. The nature of the intra-molecular division will be largely determined by external conditions; in other words, living substance necessarily adapts itself to its environment.

Unfortunately the present state of physiological chemistry is too feeble to sustain so fascinating a hypothesis. Hitherto the chemical examination of protoplasm has signally failed. All that has been studied is a collection of substances of various complexity, yielded by the breaking down of protoplasm. It is now well known that the chemistry of dead matter is very different from that of living matter, and the reason once preferred by Müller for the introduction of a vital principle (p. 24) is no longer adequate. Moreover, the synthesis of urea by Wöhler in 1828 and the subsequent researches of Liebig and his successors have completely overthrown the old idea of "organic" chemistry. It is perhaps not going too far to expect in the near future a synthesis of albumen, and in this connexion it is suggestive that optically-active sugars have been prepared from the reduction of certain proteids. Yet hitherto the chemistry of living substance itself remains untouched. "Protoplasm" is a word devoid of chemical significance, useful, like its daughter term "Enzyme," to connote certain obscure reactions rather than to denote any definite substance.[1]

The physical constitution of protoplasm is as little known as the chemical. By some, *e.g.*, W. Fleming, it has been called a feltwork; by others, *e.g.*, Fr. Leydig, a spongework. O Bütschli (25), from his researches into the protoplasmic-like movements of delicately foaming emulsions of olive-oil, has concluded that protoplasm has a lamellar honeycomb-structure. The granula theory of Altmann, partly descriptive, partly hypothetical, bridges across the gulf that divides the above microscopically-derived contentions from such purely imaginary creations as the micellæ of Nägeli, the tagmata of Pfeiffer, the bioplasts of Pfluger, pangenæ of De Vries, the gemmules of Darwin, or the ids and idents of Weismann. The efforts to attribute vital properties to microscopic intracellular particles result in a very close imitation of van Helmont's theory, a *reductio ad absurdum* sufficiently obvious. Every particle, every cell, every tissue, every organ, nay, also the whole organism, each must have its appropriate vital force or system of vital forces. Such a difficulty will be avoided if it be remembered that life is the result of the interaction of various substances, and hence is capable of existence only in relatively large quantities of matter (26).

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[1] Recent experiments on the wonderful resistance of seeds to extraordinarily low temperatures can surely only be interpreted by the supposition that a wide difference exists between the chemistry of a seed and that of its seedling.

The following considerations make it sufficiently obvious that protoplasm has by no means universal characters. The life of a plant is very different from that of an animal; and, as plant and animal may develop under similar external circumstances, the differences in metabolism and in general activity must reside in protoplasm itself. The egg of a fowl cannot be made to develop into a horse. Temperament and constitution in one man are not the same as in his neighbour. Clearly the characters of living organisms are very various, and presumably they are associated with corresponding differences in the chemical constitution and composition of the substance of those organisms. It is at the same time to be remembered that profoundly different results may be obtained by subjecting one and the same protoplasm to different external forces. A given bud may be made to develop at will into a vegetative or a floral shoot or into a thorn, while a diœcious plant has apparently been made to develop a preponderance of male or female flowers. A similar influence of external conditions on growth is again shown in the case of lateral shoots, the growth of which is clearly correlated with the degree of development of the axial bud. All these phenomena receive the same definite explanation at Weismann's hands. However, the recent researches of Oscar Hertwig (27) in experimental embryology, if accepted, show that Weismann's theory of determinants must be modified. To account for the "isotropy" of protoplasm, either every cell of a developing vertebrate-ovum must (until the formation of the notochord) be credited with sufficient ids to produce any organ of the mature body; or Hertwig's theory must be adopted that development and evolution result not only from the nature of the germinal material, but from the moulding influence of growth, and from the relation of cells to their external and internal environment. The following experiment which demonstrates the educational capacity of protoplasm is suggestive. If transferred by easy and gradual stages from a normal to a fairly strong poisonous fluid, protoplasm may be made to grow and to continue its usual functions amidst conditions, which would have killed it had it been ruthlessly plunged from the normal into this toxic medium. Evidently the chemical constitution of the protoplasmic molecule is thereby changed; the living substance may be said to have been educated to act in a strange environment. The persistent application of such abnormal stresses from without might conceivably bring about a permanent change in the chemical composition of protoplasm, thereby giving rise to different individuals or even to different species. It is, however, impossible to demonstrate the permanent modification of the protoplasm of any metazoon by a new constant stress from without, and hence an expression of the phenomena of heredity, evolution and development in such simple physical language falls to the ground. On the other hand, development has too long been ascribed to the effects of a closed internal system, independent of all external influence; while qualities, admittedly complex, have been retained in an invisible world of ids and determinants. Only by attributing the various changes of the embryonic and adult life to the interaction of external and internal conditions, will further experiments be prompted to settle such disputed questions as the influence of external conditions on the determination of sex, function and monstrosities.

This brief mention of Weismann's theory here in connexion with the difficulties of a mechanical description of vital phenomena would have little to recommend itself, were it not for the great moral the theory carries with it. The principle of the non-transmission of acquired characters, which, however incomplete, still remains unassailed by direct experiment, was directly deduced by Weismann from his inductively formed theory of heredity. Indeed so many are the discoveries, so numerous the researches which have been called forth by its aid that, even when rejected, this theory is destined to an immortal place in the annals of Natural Science. Concerning the nature of life, as concerning the nature of heredity, it is the imperative duty of the biologist to brush from his eyes the veil of hopeless pessimism, to look carefully and impartially on all sides of him, to frame the best theory which knowledge thus acquired permits him, and to test the truth of his theory by such experiments as it suggests.

The conception of life as a special form of activity, has been discussed in the light of two alternatives. Either this activity is the expression of mechanical forces which, to use Virchow's words, "act under most extraordinary and varied conditions, wherein the final effects are separated from the original causes by so many intermediate links that their connexion is not easily established ". Or else, this activity is something absolutely *sui generis*, meriting the dignity of the same isolation which distinguished electric or magnetic force a century ago. History shows how " as philosophy advances, life or activity in natural objects retires, and leaves them dead and inactive. Instead of moving voluntarily, we find them to be moved necessarily : instead of acting, we find them to be acted upon : and Nature appears as one great machine, where one wheel is turned by another, and that by a third : and how far this necessary succession may reach, the philosopher does not know " (28). Surely, then, he will hesitate before denying to vital phenomena the extension of that unifying process which all progress bespeaks.

The two sides of the same problem stand clearly displayed. On the one hand, Natural Science offers but a description of phenomena in arbitrarily-selected language. On the other hand, the human mind, dissatisfied with these narrow limits, tends always to exchange mechanism for a teleology where verification from experiment is no longer possible. Pursued objectively, causality seeks the relation between phenomena. Pursued subjectively, it concerns the origin of phenomena.

From the universal standpoint of Natural Science, attention has been directed to the interaction of external and internal conditions during development ; to the impossibility of a present description of growth, adaptation and heredity in mechanical language ; and to the lack of knowledge concerning the composition and structure of living substance. And it has been shown how necessary to the physiologist is the retention of the expression " vital force " ; whether by it be understood the resultant of ordinary physical forces of which he knows little, or something (distinct from and opposed to these forces) of which he knows nothing. Regarding the most recent rapid extension of knowledge in physics, a third meaning, more probable that either of the two former, may be entertained ; vital principle being held to express a combination of definite complex forces, which are mechanical in so far as they depend on phenomena that differ only in degree and not in kind from those of lifeless nature, which are vital in so far as they result from the activity of a substance, the conditions for the manufacture of which are quite unknown in the laboratory. In this way, neither mechanism nor vitalism, as now understood, can be proferred as the scientific theory of the future. The greater becomes the knowledge of the living and lifeless worlds, the more each doctrine must borrow from the other, until this unifying process has become so complete as to make it impossible to decide whether a mechanical or vitalistic description is in force.

Also from the individual standpoint of the Inquirer, the necessity for the retention of the expression "vital principle" is no less obvious. Although objectively he may deny to consciousness the existence of some inner connexion, marked by necessity and universality (29, 30), and may describe the distinction of Self and Not-self in terms of an ever-running stream of sensations amid "the perpetual flux of nature," yet ultimately his purely subjective standpoint must force him to the recognition of the Ego. The subject is far too vast and intricate to find treatment here. It has been fully elaborated by Ward, who thus summarises the argument: "If a series of feelings is what is known or presented, then what knows, or what is presented to, cannot be that series of feelings." (31). This line of reason must be generally applicable to the sentient world, if the gradual evolution of consciousness be not denied. And to the question, *καὶ τί ποτ᾽ ἐστὶ τὸ ἑναποιοῦν*; the reply must surely be—something not undeserving of the expression, "vital principle".

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(*Conclusion.*)

IV.—THE ABSOLUTE OF HEGELIANISM.

By A. K. Rogres.

Among the adherents of that school which in a rough way may be termed the Hegelian school there are, as is well known, two pretty distinct tendencies represented. I suppose that these tendencies may be traced respectively to the Kantian and to the Hegelian strain in the general method of thought which the school stands for. On the one hand, the emphasis is placed upon the comprehensive unity of knowledge with which reality is identified. The individual, and, indeed, the race, fall into the background as compared with this complete and eternal fact of existence, which human knowledge only reproduces very imperfectly. As opposed to this static conception, which of course is represented in its more orthodox form by Green and his immediate followers, and, more independently, by such writers as Bradley, Royce and McTaggart, the other, or Hegelian strain, lays emphasis on the nature of thought or experience as a living and developing organism. Here the actual facts of growth in human experience as such are very much in evidence, and far from being a comparatively meaningless set of approximations to a reality which already exists complete in itself, are the very stuff from which reality is made; indeed, no definition can be given of a reality except as it is placed in this ever-widening process of growth.[1] I shall, for my present purpose, be content with assuming that the more recent Hegelians are right in defining reality as a process, rather than a timeless content of knowledge; what I wish to consider is the relation of the concept of God to this process of reality, and the grounds on which the Hegelian considers himself justified in discarding an ultimate self *distinct* from human selves, and in defining God as merely the process of reality itself which finds its whole expression in finite lives. Granting that ultimate existence is somehow a process which presents itself to us as, in appearance, a system of interrelated lives, is it possible to call this a process of "experience" and to form a distinct conception of it which shall dispense with a self-conscious personality distinct from human life, on which human life depends?

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[1] See McTaggart, *Hegelian Dialectic,* p. 7: "Reality itself is not a process, but a stable and timeless state"; and *cf.* with this Wallace, Mind, vol. v., p. 551: "The Absolute is at least life, at least Ego, and if these are not process . . . it is difficult to see where we are to look for examples of process".

It may be asked, in the first place, whether or not, on the Hegelian theory, this ultimate process which includes human selves is also to be regarded as a single conscious self. This question is for the most part not very clearly answered. On the one hand, the close connexion with earlier Hegelianism, between which and the newer form of the theory there is usually but little distinction drawn, points to this conception of God. This is most clearly exemplified in the case of Prof. Caird, who serves in a way as a transition between the two types of interpretation, and who combines both strains in his results, without apparently feeling the need of reconciling them. At one time he seems frankly to recognise that reality is a process, and to base his argument upon the recognition. It is in this way that he finds the reconciliation of subject and object. Consciousness "goes out of itself to objects in order through them to realise its unity with itself. The judgments by which we determine objects are steps in the *synthetic process* by which we *finally reach* the judgment of self-consciousness."[1] "The return upon self in self-consciousness is a *positive movement* by which the consciousness of objects is completed."[2] "Nature *comes to self-consciousness* in man."[3] "The dawn of consciousness in which the external object first comes into existence for us as opposed to the self, is at the same time the beginning of the *process* by which its externality is overcome."[4] "If it begins by opposing the world to itself, its next movement is to retract the opposition, to find itself therein. Consciousness, through the mediation of externality, realises itself, or becomes self-consciousness."[5] "A principle of unity . . . which finds its complete expression only in the relation of the *process* of nature to the self-consciousness which is developed in man."[6] "What from one point of view is the process whereby we become conscious of a self in opposition to objects, is from another point of view the *process* whereby the principle of their existence is disclosed, the process whereby, we might even say, they become conscious of themselves in us."[7] It seems to me that here we have a peculiarly obvious instance of the way in which God is confused with human life; by identifying the distinction of the self and the world, with the distinction of consciousness and self-consciousness, perception and conception,[1] the process by which we turn our objective experience into an instrument that ministers to our own growth, gradually discovering that the world which at first comes to us as foreign has in reality its spiritual value, is transformed, apparently without any hesitation, into the process by which the world that existed before human life appeared gradually comes to consciousness of itself in man.[2] It is not necessary to dwell upon this, however; the main thing is that, however taken, Prof. Caird's words are meaningless except as referring to a real process. But then again he says: "Our conscious life is a realisation in us of perfect intelligence, *i.e.*, of an intelligence which knows all that as self-conscious subjects we have the possibility of knowing, and therefore is all that we can become"; we have, that is, the realisation of an intelligence which is already realised, "for which the process of development is completed".[3] How this is compatible with a process in any sense I am unable to see. If in truth this principle of progressive realisation by first externalising the object applies not only to human intelligence but to intelligence everywhere,[4] then God is not eternally realised; and if he is so realised, then he must lie outside human experience, which *is* a growth: both things cannot be true of him at the same time. But now the more this static conception drops into the background the more the tendency shows itself to ignore the term self as a description of the Absolute and to fall back on an impersonal process of experience, or consciousness, or life, within which the self is apparently a subordinate category.[5]

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[1] *Kant*, vol. i., p. 412.

[2] *Ibid.*, p. 619.

[3] *Lit. and Phil.*, vol. ii., p. 403.

[4] *Ibid.*, p. 472.

[5] Spinoza, p. 311.

[6] *Kant*, vol. i., p. 77.

[7] *Ibid.*, p. 263; *cf.* also pp. 23, 119, 616.

Now the truth of Hegel's contention I take to be this: The course of human history is a revelation of God, and a real expression of God's life. It is no mere concession to finite weakness, whose end is a *knowledge* on the part of men of what already exists eternally, but the course of history reveals God actually at work; and except as he is at work, God does not exist. But there are at least three ways in which this might be taken. It might mean that God, reality, has no existence outside the process of human development, and that the growth of the human spirit is literally and absolutely the growth of God's consciousness of himself. At the other extreme, we might hold that, essentially as my life has its content in its relations to other lives in the universe, at the same time that it is unitary and self-contained in point of existence, so God has a unity of consciousness which opposes itself to human selves, at the same time that the relations in which these human selves stand to his life enter into its content. History thus reveals in very truth the life of God, but not that life in its entirety. In this way we do not identify God with man, and we have no difficulty in thinking his existence through eternity and before the human race appeared. This is the position which I myself shall adopt. Or we might try to steer a middle course between these two, and while we deny to God a separate personality, might yet grant that his life is not exhausted in *human* development.

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[1] *Cf. Kant*, vol. ii., p. 122, and *Lit. and Phil.*, vol. ii., p. 518.

[2] *Cf.* the first, second, fourth and fifth quotations above, with the third, sixth and seventh. See also *Kant*, vol. i., p. 423, and *Evol. of Religion*, vol. ii., p. 77: "The whole process of nature is summed up in him. In him the natural world comes to self-consciousness."

[3] *Kant*, vol. i., p. 423. *Cf. Lit. and Phil.*, vol. ii., p. 447.

[4] Spinoza, p. 311.

[5] *Cf.* Wallace, *Logic of Hegel*, p. 35.

This latter theory is hardly intelligible except on one assumption—at least, if it is, its upholders may fairly be called upon to show it. It would be possible, I suppose, to look for the surplus of God's life in other finite selves apart from mankind, but except for this expedient the way in which a surplus could exist is not clear. A physical fact, on the basis of Hegelianism, has no medium of existence except in conscious experience, and experience which does not take the form of a self we know nothing about.[1] If, therefore, we set up any reality before human beings existed, it must be a conscious experience, and, as such, a self-conscious unity which, from the standpoint I adopt in looking at it in its previous existence, into which human life does not yet enter, is at least as distinct from my self as I am from my neighbour. And if a reality, appearing to us as nature, existed before the period of human life, then it is quite arbitrary to deny the existence of nature now beyond its appearance in human experience; and consequently, unless we adopt Mr. Bradley's Pan-mixism, we have a fact of reality distinct from human lives, and forming the same sort of conscious unity which they form, and which we call a self. And as it would be impossible to deny the dependence in some sense of our lives upon this original unity, we should come back to the second of the alternatives I have mentioned. Now Hegelianism seems, at least, to deny the independent reality of nature in any sense. Logically, therefore, the Hegelian can only interpret nature by the function it has in human development, and it must itself grow up in the process by which man comes to know it. We are therefore met by this dilemma : If reality is human growth, then it is impossible to say what we mean by the apparently necessary demand of science and common sense alike, for some reality preceding, in the line of evolution, the appearance of the human race—a difficulty which Hegelianism has never to my knowledge fairly set itself to meet. If, on the contrary, such a reality did exist, then it cannot be made intelligible except as a conscious life, which thus forms, so long as we use the language of common sense, a unity of experience distinct from what we call ourselves. Any attempt, therefore, to gain the favour of common sense by using language like Prof. Caird's, which seems to imply that we can understand, by reference to "experience," the evolution of the real universe in the scientific sense, without at the same time distinguishing [1] between this and the development of human lives, is fundamentally obscure.

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[1] *Cf.* Dewey, MIND, vol. xii., p. 88.

We are led, then, to the other conception of reality as constituted, frankly, by *human* growth. Now this is the apparent goal of the more recent tendency in Hegelianism. Reality is growth in experience.[2] It is experience as we actually know it developing in time.[3] We are not to conceive of any such thing as an independent universal mind.[4] The universe is a thinking process which realises itself, for us, only in human consciousness.[5] What we call the object is something that actually grows with the consciousness or knowledge of it.[1] In other words, the process which we trace in history, and which is still going on, is reality, and *all there is to reality.* My life and thought is an instrument by which the Absolute attains to a higher consciousness.[2] Reality develops in me,[3] not simply in the sense that my life contributes to the life of the world, but in the special sense that the new knowledge which I contribute is actually God's self-enlightenment. The laws of experience—experience, *i.e.*, as the developing, expanding process of increase in knowledge and appreciation which it is for us—are in all literalness the laws of the Absolute.[4] Philosophy has for its sole function the task of releasing the forms of thought which, in the course of this process, have become crystallised into dogmas, metaphysical concepts, institutions, transforming them back into their fluid state again, and rendering them capable of serving as instruments for a fresh advance.[5] All this gives to the newer phase of Hegelianism a decided positivistic tinge. The value of philosophy is exhausted in its immediate functional use, and it has no reference to ultimate "truth" in the old-fashioned sense. "Of ultimate and absolute reality," Mr. Wallace says, "philosophy will say positively and dogmatically but little, though it may limit much of what we have to do in temporal and relative service to further the coming of the kingdom of truth."[1] So also Prof. Jones: "A system of philosophy must fail if it is faithful to its datum; it must perish with the life it explains, though it perishes only as that life does, namely, in such a way as to enter into the larger life which succeeds it".[2]

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[1] If the Absolute is really a growing intelligence *like ours* his coming to a consciousness of the world would at least not take the form of a *multitude* of human lives.

[2] "Ultimately the growth of experience must consist in the development out of itself by intelligence of its own implicit ideal content upon occasion of the solicitation of sensation," Dewey, MIND, vol. xii., p. 396.

[3] "What exists is a series of mental operations, activities of reality, as manifested in the subject who thinks, and in the conditions, within him and without, which make his thinking possible," Jones, MIND, vol. ii., p. 457. *Cf.* pp. 164, 305.

[4] "The *deus ex machina* of an hypostasised universal mind, independent of particular minds," Eastwood, MIND, vol. i., p. 485.

[5] "He (Hegel) means what he says, that God is spirit or mind, and exists in the medium of mind, which is actual as intelligence for us, at any rate, only in human self-consciousness," Bosanquet, *Essays*, p. 105. "I regard Idealism as a theory which represents the Universe as a thinking activity, an activity which reaches its highest form in this world in man," Jones, MIND, vol. ii., p. 294. "To treat reality frankly as the process whereby reality manifests itself in the mind of man," Jones, *Browning*, p. 300. *Cf.* also, pp. 297, 298.

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[1] "A state of consciousness symbolises something which is not originally there to be symbolised, points to an object which does not as yet exist, and indeed becomes that object in the act of pointing to it," Jones, *Lotze*, p. 111. "The reality is from beginning to end involved in the meaning; it grows with the growth of the meaning, and it also guides the process of evolving the meaning by means of judgment," p. 365. "Reality has no meaning apart from the process of growing knowledge," *Browning*, p. 297. "The reality which man sets over against his own inadequate knowledge is posited by him, and it has no meaning whatsoever except in this contrast," p. 298. *Cf.* also Nettleship, *Phil. Lectures*, vol. i., p. 204.

[2] "Knowledge is the self-revelation of reality in thought, and our thought is the instrument of that self-revelation," Jones, *Lotze*, p. 370. "The effort to know derives its impulse and direction from the reality which is present, and striving for complete realisation, in the thought of man," *Browning*, p. 30.

[3] "The steps by which reality itself develops in the individual mind," Muirhead, MIND, vol. v., p. 516.

[4] Jones, MIND, vol. ii., p. 302.

[5] "To comprehend the universe of thought in all its formations and all its functions, to reduce the solid structures which mind has created to fluidity and transparency in the pure medium of thought, to set free the fossilised intelligence which the great magician who wields the destiny of the world has hidden under the mask of nature, of the mind of man, of the works of Art, of the institutions, of the states and orders of society and of religious forms and creeds—such is the complicated problem of Philosophy," Wallace, *Logic of Hegel*, p. 28.

No doubt there is truth in all this. The content of reality is revealed to us in experience, and philosophy cannot hope to outstrip history, and gather in the wealth of meaning which only the future will reveal, but must be content to interpret life as it comes. But then philosophy has never pretended that it was its business to exhaust the content of life, but only, in so far as it aims to make any absolute statement, to determine the nature of reality in its general outlines. And in this sense I do not see how we can escape the result that it is philosophy's task to transcend its immediate practical value and discover absolute truth. We are determining reality thus absolutely when we call it the process of experience, quite as much as when we postulate a metaphysical existence beyond the human experience which is known to us. To claim that the business of philosophy is to interpret for us the immediate situation and *not* to tell us about the nature of absolute truth as a matter of theoretical knowledge, seems to me suicidal; it would practically confine us to the bare moment, and would take away all that we mean by the truth of *any* philosophical theory, including our own. In reality there is no reason why the two things should be incompatible. I can use my philosophy to interpret the present demand of life upon me, just because it is a theory of reality as a whole, of real existence beyond the present, with reference to which the present can be placed and understood. Each new experience will undoubtedly alter the content of reality for us, and so the task of interpretation is an endless one, which each generation has to perform for itself; nevertheless, it is the necessary ideal of philosophy to make this growing task the filling in of a general conception of reality as a whole which is regarded as true, not a mere advance to some indefinite goal of which we can say nothing except that it will never be reached. No interpretation of the past and present would be possible if we could not in some degree see these in the light of the whole which transcends them.

Hegelianism has no special advantage, therefore, in the fact that it insists upon the functional value of philosophy;

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[1] MIND, vol. v., p. 554.

[2] *Ibid.*, vol. ii., p. 166. *Cf.* p. 161, and especially Dewey, *The Significance of the Problem of Knowledge.*

and we have still to ask whether the position for which it stands—that the sole reality which we can say anything about, and which, therefore, we must identify with the Absolute, is the reality of human experience[1]—can rationally be maintained. And here we have to meet at once the objection to a growing God. Apparently we have a God who starts from the barest minimum, and who gradually comes to a more and more complete consciousness of his own nature; and the difficulties in this are so obvious that I hardly think it necessary to enlarge upon them. As a growth in perfection, common sense would be quite ready to admit a gradual development of the human realisation of God's nature, but not, surely, of God's consciousness of himself, as it must do if human development and God are identical. To anything which has the appearance of making reality dwindle away, as we go back in time, to a mere nominal existence, philosophy and common sense alike have an insuperable objection. And if we were to go on, and sum up God's absolute nature in human development at the present stage which it has reached, as Hegel shows at least a tendency to do, we should have a *reductio ad absurdum* which would hardly need further discussion.

This latter conclusion, however, it would be unfair to insist upon; in reality it is excluded by a right understanding of the conception. For of course if reality is a process, it does not come to an end now, but is still going on, and Absolute reality is still to be revealed more completely. And this may seem to open a way for the solution of the difficulty we are considering. It is not simply the present and the past that is real; the future is real also. A thing was what it has become, and so it is what it will become.[2] Accordingly, if we ask what the truth of nature is, we are not bound down to the obviously untenable position that it is what mankind already knows about the world. Since reality is the process as a whole, the new part which nature is still to play in human life in the future is to be included in the conception of reality, and of nature. The fact that in our time reality has only reached a certain stage, does not make it necessary to define reality absolutely by this particular stage. And it may be admitted that this contention has a degree of force. But I do not see that it meets the real point at issue. The essence of Hegelianism is the way in which it bases itself upon experience. Now experience, for us, is nothing if not a growth. It is a life of warfare ; the overcoming of difficulties ; the working out of inherent contradictions, and their solution by the discovery of a reconciling synthesis. This is the Hegelian dialectic in its application to human life, and the dialectic is made by Hegel the root of the matter, and is evidently intended to be an account of the inmost nature of the universe.[1] But the dialectic, once more, unless we empty it of everything that is characteristic of it, involves actual difficulties to overcome, and a synthesis which is only won at the end of a real and strenuous conflict ; it is a process of judgment which, if it is genuine at all, implies an actual advance in knowledge, to a result which was not in consciousness at the start. Hegel's Absolute literally comes to consciousness of itself. Now while this is conceivable enough in the case of our experience, where difficulties can arise from the fact that reality exists beyond us, and furnishes conditions which we need to take into account, it is to my mind entirely meaningless when applied to the Absolute. The presence of a difficulty to his knowledge at once makes the Absolute relative and partial ; and if a reality at a given stage in God's existence is unknown to God, we are entirely at a loss as to any way in which such an existence is conceivable. If, to meet this, we say that the knowledge of the whole is present all along, and that it is only the consciousness of its progressive realisation that shows an advance, we may, indeed, have solved the difficulty, but we have abandoned Hegelianism. We have given up the dialectic as the central fact of reality, and with it have set human development apart from the immediate experience of God. Human experience, at any rate, is a dialectic, a real growth, in which self-consciousness is actually a conquest, and the end is not already present in the beginning. But if God's life is a different thing from human life, it is not identical with it, and the task of philosophy has been no more than started. If, on the contrary, God *is* no more than human development, and the laws of developing experience are the laws of his growth, then the future, except the very immediate future, is not *consciously* involved in the present; and if it is not *consciously* involved, it is quite impossible to get any notion as to what its existence means, since we are *ex hypothesi* shut off from appealing to a reality contemporaneous with present experience, but beyond it.

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[1] Not of course the reality *revealed in* human experience, for it is the essence of the common sense position, and its central point of difference with Hegelianism, that realities can be *known* in human experience which yet have an existence beyond it.

[2] Eastwood, MIND, vol i., p. 485; Jones, *Lotze*, p. 374.

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[1] *Cf.* Jones, *Browning*, p. 301. "The effort to know derives its impulse and direction from the reality which is present and striving for complete realisation in the thought of man." "If reality is never known, it is ever being known," p. 303. Also Wallace, MIND, vol. v., 551 : "The Absolute —the Hegelian God—is at least life, at least Ego, and if these are not process—self-surrendering, self-renewing process—it is difficult to see where we are to look for examples of process." Caird, *Lit. and Phil.*, vol. ii., p. 437 : "Spirit can fully realise its unity only through a world which, in the first instance, must present itself as the extreme opposite of spirit."

But will not the same difficulty exist, it may be asked, in any conception of reality as a process? Not the *same* difficulty, if we hold fast to the distinction already drawn. The trouble comes in making ultimate reality a growth of *knowledge*, as our experience is; and, in consequence of this, a development which is cut up into a multitude of relatively disconnected steps, or acts, as our experience is, again. We may have progress, however, without what in the popular sense we call a *growth*, and it only is the former which is applicable to God. Growth involves judgment, thought, and as such is the characteristic of all human experience. But the thinking process with us is a mark of our limitation, and would never arise unless we were met by an obstacle which demanded knowledge we do not possess; and an obstacle implies conditions which are not summed up in the experience itself, and which, therefore, are impossible to God, who is all in all. But because God does not have to stop and think how to surmount difficulties, it does not follow that his life is not in some sense a process. Our own experience teaches us how this can be. I may be doing something whose completion requires a considerable number of steps, and yet the end in its relation to the different parts, as each in turn comes up, is consciously present throughout them all. Now this, to be sure, is always a particular experience, which soon comes to an end; but we may take it as a *type* of what reality is most truly. If for God all existence enters into the embrace of a unitary purposive whole, we can see how, in principle, it may be a process, without being in the ordinary sense a growth. God does not come to know himself, but he progressively realises himself in action. The future is present as what we call a purpose, the past as what in human life we call a memory; and since no fact can ever, not simply cease to exert an effect, as it does with us also, on the constantly-progressing achievement of which it is a part, but cease to enter *consciously* into God's experience as having this relation to the whole—with us, on the contrary, things tend to pass from memory—there is nothing in the whole world, present, past or future, which has not an eternal existence in the life of God. So even for our own lives: it is only for us as we directly experience them that they are a growth; as entering into God's knowledge, they have, like other things, an eternal value.

The general difficulty in the way of the conception I am criticising is, I think, sufficiently plain. And it will be unnecessary to do more than allude, again, to the further objection that it leaves no way at all for conceiving a real evolution, distinct from human development, such as science believes in. Scientific truth can only mean that certain formulæ are practically useful to us as guides to action; and any attempt to make Hegel's philosophy of nature go beyond this, and cover an actual fact of existence conceived as extending back in time before the appearance of man, will involve us in hopeless confusion. But the difficulties are not yet exhausted. Suppose we assume, for the moment, that the universe is a thinking process, which only comes to consciousness of itself in finite selves: how are we to conceive of the connexion which holds between these various selves? And my contention is, that in falling back upon experience, the Hegelian simply utilises the conception which he derives from a single human life—his own; and, therefore, that he is left with no expedient whatever for uniting different selves.

And first as to the facts. It is hardly worth while to collect passages in which everything is reduced to distinctions, or factors, within experience, or consciousness, or knowledge, but I will subscribe a few of these: "The objects we know are real because they exist for us in consciousness, and are yet distinguished from the mere sequence of our representations."[1] "Call it if you like the experience of the race, but remember that this connotes neither more nor less than normal, ideal, universal, infinite, absolute experience. This is the unconditioned which is the basis and the builder of all conditions; the Absolute, which is the home and the parent of all relations. Experience is no doubt yours and mine, but it is also much more than either yours or mine. He who builds on and in Experience, builds on and in the Absolute, in *the* System—a system which is not merely *his*."[2] "All that is for—not the self which is a particular object in space and time, nor yet any transcendent self, but—knowledge."[3] "A method for the investigation of the content of consciousness. Outside that consciousness we cannot and need not get."[4] "If the nature of all objects of philosophical inquiry is to be determined from fixing their place within conscious experience, then there is no criterion outside of or beyond or behind just consciousness itself. To assume the psychological standpoint is to assume that consciousness itself is the only possible Absolute."[1]

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[1] Watson, *Kant*, p. 52.
[2] Wallace, *Logic of Hegel*, p. 169.
[3] Haldane, MIND, vol. xiii., p. 586.
[4] *Ibid*, p. 588.

Now I submit that there is, or is commonly supposed to be, such a thing as my life experience—a strictly limited affair, to which I do not belong as a part, but which is literally myself; and that this is the only experience of which I am directly conscious. When, therefore, I talk of conscious experience, and ignore entirely the possibility of there being a number of such experiences, the presumption is that it is my own to which I am referring. But such an experience, as I say, is no comprehensive whole, including within it a multitude of selves and objects; what it includes is only a *knowledge* of these realities. We can, indeed, in this way show how, psychologically, the recognition of myself, or other selves, arises; but to say that we also have an explanation of the manner in which the Absolute differentiates itself into actual concrete individuals seems to me to be an enormous *non sequitur*. And yet this seems to be what the Hegelian relies upon. The clearest statement I know is Prof. Dewey's.[2] Here philosophy is expressly reduced to psychology, and the psychological explanation is given as the ultimate one. All that we need to concern ourselves about is, not the relation of the individual and the universal consciousness, but the relation of the individual and the universal *in* consciousness, *i.e.*,[3] the peculiar psychological functions which these concepts serve. The sole thing, therefore, which we have to consider in dealing with any fact, is its *meaning* for the process of experience; its meaning *is* its reality.[4] And to appreciate this, we should distinguish two senses in which the word meaning may be used. In the perception, or thought, of an object, I may speak of my knowledge as meaning, referring to, something which is not itself, and which has an existence of its own apart from any experience of mine; or I may intend to call attention, when I talk of its meaning, to its teleological aspect, the part which the perception plays in the conscious experience where it occurs: and it is only the latter sense which the Hegelian has in mind, the former he ignores or denies.[5] The unity of experience which utilises all these distinctions, and within which they appear, is the ultimate unity of the universe,[1] and a thought has value simply as it ministers to this process; there is no such thing as a definite and concrete reality getting itself represented *in* thought, which is what we commonly regard as a very important function of thinking.[2] There is, indeed, a truth which underlies this objection to epistemology; no doubt the *mere* correspondence of an idea to reality is not enough.[3] That human thought is such a *mere* reproduction of an eternal thought is precisely where the older Hegelians left us, and it is quite right to call attention to the fact that our experience has also a more positive value. But I do not see why, because our thought is a real factor in the life of the world, it should therefore be debarred from *also* being a representation of other reality; why the construction of the world by the self should be equivalent to the existence of the world *solely* as so constructed.[4] The natural belief is that our thought can help along the course of the world just because of its ability to reconstruct and represent to us what this world is, and so enable us to act intelligently; and I do not see why such a view is not entirely reasonable. At any rate, the rejection of it brings us back to experience as the sole reality, and I confess again my inability to see why this is not what common sense speaks of as *my* experience. Any attempt to avoid this conclusion seems to me to be possible only by using our terms ambiguously. We may argue that experience cannot belong to a self, which is itself only one category among others *within* experience; but if we distinguish between the self as an existence, and the act of thought by which this self is made an object of knowledge, the difficulty seems to me to disappear. Why should not a self, as a connected stream of experience, have the power of objectifying its own existence, and placing it among the other objects of its thought? We might argue in the same way that *experience* cannot be reality, because experience also is a thought category, appearing in its own definite place, and with its special function. Indeed, the attempt to limit the meaning of thought purely to a function seems to me to render impossible any theory whatever. It is not unusual to find recent expounders of Hegelianism defending themselves against the accusation of reducing things to ideas, by insisting as strongly as common sense even on the distinction of the two.[1] But what now does this mean? Apparently[2] no more than the very obvious fact—which I imagine no one will be rash enough to deny—that the perception, or thought, of an object, is different from the act of recognising this *as* my perception or thought. There is such a thing as an objective experience—this is the object—and there is the quite different experience which may follow it, of recognising the first experience as mine, and placing it with reference to the rest of my life—and this we may call subjective. Now the argument *seems* to be—I think *must* be unless we admit the separate existence of the object in a way the Hegelian persistently refuses to do—that the objective experience cannot be subjective, or mine, because it does not definitely recognise itself as such; the subjective experience is always an interpretation of the objective, and so a wholly new thing.[3] In other words, we are still referred each time to the peculiar nature of the knowing experience itself, to the exclusion of any reference beyond itself; and so when I attempt to say anything about an experience, *e.g.*, that a certain objective experience was in reality mine, I am told that this recognition is a quite new fact of experience, and that this new fact it is which is subjective, not the former one.[1] But to this the answer is, that when I say the former experience was mine, I am talking of the former experience in its own existence—not of the later experience which knows and interprets it. And if I am not doing this, then, as I say, I may be able to act, but any *theory* is impossible, for I am shut up just to the present experience, and my apparent knowledge of anything besides, including the past experiences whose actual past existence is a necessity to give meaning to a theory which is based on them, is a delusion.

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[1] Dewey, MIND, vol. xi., p. 17. See also pp. 3, 8, 9, 14, 16; vol. xii., pp. 84, 86; Jones, MIND, vol. ii., pp. 162, 164; Ritchie, MIND, January, 1899, p. 4; Watson, *Phil. Rev.*, vol. iv., p. 356.

[2] MIND, vols. xi. and xii.

[3] Vol. xii., p. 84.

[4] *Ibid.*, pp. 392, 396; Jones, *Lotze*, p. 365.

[5] Jones, *Lotze*, p. 111.

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[1] "The reality first given to us indefinitely opens out upon us into differences and sunders into the primary distinctions of subject and object. But we are not entitled therefore to forget or deny the unity of the reality in which the distinction takes place," Jones, *Lotze*, p. 170.

[2] Prof. Dewey denies that the self can be the highest category of thought (MIND, vol. xv., p. 74) for the reason that it is more than thinking (*i.e.*, doing and feeling). This implies that a thought-category has only a teleological, and not a representative use; otherwise there is no reason why a category should not be more than thought, and still be a thought-category, *i.e.*, represented in thought.

[3] Jones, *Lotze*, p. 41.

[4] The two schools of Hegelianism seem to me to complement each other here, the one emphasising the eternal reality known to the exclusion of human knowledge and its positive value, the other the function of finite growth in knowledge to the exclusion of any reality which it refers to, and which makes its functional use possible.

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[1] "To say that a thought is the thing thought of, *or that one psychical activity is another psychical activity*, is tantamount to dissolving the continuity of being," Jones, Mind, vol. ii., p. 460. "It is inconsistent with the possibility of knowledge that it should *be* the reality which it represents," *Lotze*, p. 272. *Cf.*, also Dewey, Mind, vol. xi., p. 12.

[2] *Cf.*, the first quotation above.

[3] "Our inner experience is just our outer experience on its inner side, or it is an experience in which that inner side is specially reflected on," Caird, *Kant*, vol. i., p. 641. *Cf.* Watson, *Kant*, p. 48. I, therefore, am only a part of experience, not the whole of it. Here, for example, is the way Prof. Dewey attempts to escape from subjective idealism: "Now the point I wish to make is that consciousness is here used in two entirely different senses, and that the apparent plausibility of the argument rests upon their confusion. There is consciousness in the broad sense, consciousness which includes subject and object, and there is consciousness in the narrow sense, in which it is equivalent to mind, Ego, *i.e.*, to the series of conscious states. The whole validity of the argument rests, of course, upon the supposition that these two are just the same—that it is the individual consciousness, the Ego, which differentiates itself into the two kinds of consciousness, subjective and objective. If not, mind as well as matter, the series of psychical states or events which constitute the Ego, and are the scope of mental science, as well as that in which all sentient beings participate, is but an element *in* consciousness.

If this be so, Subjective Idealism is abandoned, and Absolute Idealism is assumed. The essence of Subjective Idealism is that the subjective consciousness, or mind, which remains after the objective world has been subtracted, is that for which all this objective world exists. Were this not so—were it admitted that this subjective mind, and the objective matter are both but *elements within*, and both exists only *for consciousness*—we should be in the sphere of an eternal, absolute consciousness whose partial realisation both the individual subject and the external world are," MIND, vol xi., p. 11.

It seems to me that we have escaped from Subjective Idealism only by defining that theory in a way which is wholly different from what is ordinarily meant by it. If, by myself, and my experience, I mean only the special and limited class of experiences in which there is present a distinct recognition of something as a part of my life, then it is true that experience contains more than the me. But I deny entirely that this is what we do mean. When I declare that an objective experience was mine, I mean just what I say—that the actual objective experience, in its own existence, was a part of my life, without any reference whatever to this new experience of knowing it. There is no difficulty in this if we distinguish between what is psychologically subjective—*i.e.*, certain phases of the psychological experience in which my knowledge is dealing with my own life;—and what is metaphysically subjective—*i.e.*, certain experiences, *both* subjective and objective in the psychological sense, which form the unity of a life history, and as such exclude other objects of our knowledge. Prof. Dewey *assumes* that the psychological is the only valid meaning, but this is not something to be assumed, but proved. To say that this inner experience in the larger sense cannot be distinguished from our consciousness of the world (Caird, *Kant*, vol. i., p. 646) is either false or irrelevant. It is true that it is not separate from *our* consciousness (better, *knowledge*) of the world; it is, however, distinct from *the world*, and to deny that it is so is to identify the world with *our* consciousness, and so to escape from Subjective Idealism only in name.

[1] "The want of knowing, like every other, must take place before its interpretation, and therefore the relation of the subject and object is prior to the distinction between them which the process of interpretation brings to light," Jones, *Lotze*, p. 108.

There must be, however, something of positive value back of the Hegelian's contention, and I think it is possible to see what this is if we try for a moment to think of the world as a whole of connected *activities*. My act, as the expression of my life, is not an isolated fact which is mine alone, but at the same time that it is mine, it has a meaning for the whole; and so there is a sense in which it is perfectly true that, in each particular conscious act, the entire universe is expressing itself. This, I say, is true, and I think it is of very great importance, as against any extreme individualism. But it requires a good deal of explanation in order to serve as an ultimate statement. In the first place, when we speak of an act, do we mean the physical movement? or the conscious intention to perform it, and conscious realisation of its accomplishment and meaning? or do we propose to identify the two? In accordance with the notion of common sense, which I have contended is essentially true, the act as physical, and the act as a conscious experience, are two distinct things, however closely they may be connected. The first is a movement in the outer world, of which I get a knowledge through the senses, just as any one else might do,[1] and which is a fact other than the consciousness through which I apprehend it. The act as a conscious experience, on the contrary, which includes my knowledge of the physical act—not the physical act itself—as only an element, and usually a minor element, in its own make-up, is solely *my* consciousness. I am aware of it with an immediateness which no one else possibly can be; others cannot perceive it even, through the senses, but must learn about it, if at all, only indirectly, by interpreting some bodily movement of mine. Now, if the physical world be regarded, in its reality, as a conscious unitary experience, this *physical* act is, directly, an element in such an experience. It is now, however, no longer a single act, as it purports to be for our experience, but only an infinitesimal part of the whole world activity at some particular moment; and accordingly, if there is anything which can be explained as a function of a world experience, it would be this entire world activity, not what we know as the act of a particular self. But I think it would be granted that it is not the physical act which we have in mind, but rather the conscious experience as it enters, not into the physical, but into the spiritual meaning of the world. Now taking the act in this manner, as the expression of a conscious purpose, there are two ways of looking at it. In reality the act, through its physical expression, does enter into the meaning of the universe, and, for a knowledge of the world which should be at all adequate, this universal value would have to be recognised. But while this involves a whole of meaning, it is not a whole of *experience;* there is the other aspect also to be kept in mind. The conscious action is itself a fact—a limited piece of consciousness which is immediately aware of itself, and which, as such, excludes all the rest of the world. So far as its immediate consciousness goes, it may be aware of very little of its own meaning, and it certainly will not be aware of it completely. And taken in this way, it is not in any save the most vague and general sense the act of the universe, but rather of the particular individual of whose experience it is a part; and other acts are the acts of other individuals. In this individual life-experience any act is subject to a psychological explanation, but the explanation only extends to the connexions of my acts within my life, and not within the universe as a whole. Once again, it is perfectly true that any act has in point of fact a universal value; it has relations reaching beyond my life, beyond anything, even, that it is possible for me to foresee and intend. But the unity which makes this meaning possible is a unity of selves, to each of which its own acts belong, not a unity of experience. The act is also my act, involving a consciousness which is very limited as compared with the world entire, and as such it has no relation to any unity of experience which is coextensive with the world, and is open to no such explanation by reference to this as it is by reference to the exclusive individual conscious life of which it is a part. A conscious act is explained only in relation to the purpose which it consciously serves, and this is only possible in the case of a single stream of experience which is a real conscious whole; if we try to apply it to a multitude of such streams of experience, or conscious selves, going along side by side, with no continuity of consciousness between them, and each to a great extent in complete ignorance even that these other selves exist, our explanation must obviously break down. And if any other explanation is available, let it be forthcoming.

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[1] There are, of course, certain muscular sensations which only I myself can feel, and the Hegelian appears to identify these sensations which accompany the movement with the movement itself (see Ritchie, *Phil. Rev.*, vol. iii., p. 19). From the natural standpoint, however, even these sensations are nothing but effects of the movement, while in the matter of visual and tactual sensations we are *entirely* on an equality, as regards the knowledge of our movements, with any one else.

V.—LOGICAL THEORY OF THE IMAGINARY.

By Prof. G. J. Stokes.

In his address before the meeting of the British Association at Southport Prof. Cayley, having referred to the amount of discussion which the notion of negative magnitudes has occasioned in philosophy, said: "But it is far otherwise with the notion which is really the fundamental one (and I cannot too strongly emphasise the assertion) underlying and pervading the whole of modern analysis and geometry, that of imaginary magnitude in analysis and of imaginary space (or space as a *locus in quo* of imaginary points and figures) in geometry: I use in each case the word imaginary as including real. This has not been, so far as I am aware, a subject of philosophical discussion or inquiry." Prof. Cayley then proceeded to say "considering the prominent position which the notion occupies—say even that the conclusion were that the notion belongs to mere technical mathematics, or has reference to nonentities in regard to which no science is possible, still it seems to me that (as a subject of philosophical discussion) the notion ought not to be thus ignored; it should at least be shown that there is a right to ignore it."

It is evident from the tone of the passage I have quoted that Prof. Cayley was not satisfied with the attitude adopted towards this notion by the majority of those who have treated the subject. Most writers seem to have adopted the view that however useful such an expression as $\sqrt{-1}$ may be in technical mathematics, still, even in pure algebra, the expression is essentially devoid of meaning. The dissatisfaction implied in the above quotation must be my excuse for venturing to dissent from the eminent writers who have held this view and for attempting to evolve from the logical standpoint an interpretation for the imaginary of pure algebra.

Prof. A. Macfarlane in his pamphlet on *The Imaginary of Algebra* has divided analysts into three classes with respect to the theory and use of $\sqrt{-1}$: "*first*, those who have considered it as *undefined* and *uninterpreted*, and consequently make use of it only in a tentative manner; *second*, those who have considered it as *undefinable* and *uninterpretable*, and build upon this supposed fact a special theory of reasoning; *third*, those who, viewing it as capable of definition, have sought for the definition in the ideas of geometry".

As an example of the first class Prof. Macfarlane instances the astronomer Airy, and as an example of the second the view put forward by Boole in his *Laws of Thought* (p. 68), who bases on the non-interpretability of the symbol $\sqrt{-1}$ in mathematics, a claim to dispense with the interpretability of the intermediate results in other processes of reasoning.

Prof. Macfarlane does not adduce expressly any instances of the third class. It may I suppose be considered as representing the common opinion on the subject.

The following attempt at a logical interpretation of the mathematical symbol was suggested to me by the consideration of the function evolved by Boole in pursuance of the view referred to above. Here, however, the process is reversed and an attempt made to explain an uninterpretable symbol by an intelligible logical relation.

With the doubtful exception of Carnot, whose discussion of the subject in his *Géométrie de Position* touches very closely the view here advocated, the greatest names in mathematics are identified *exclusively* with attempts at finding a geometrical interpretation for the imaginary roots of unity. De Morgan who assigns a geometrical meaning to "double" and "triple" algebra says expressly of "single algebra" or what I have above called pure algebra that the symbol $\sqrt{-1}$ is in it unmeaning. The same view seems to have been held by Clifford. It is expressly stated in the *Common Sense of the Exact Sciences.* More recently this view has been reasserted by Mr. Russell in his *Foundations of Geometry*, who however adds that he is "unacquainted with any satisfactory philosophy of imaginaries in pure algebra". Essentially the same standpoint is adopted by Mr. Whitehead in his recently published *Universal Algebra*.

This position seems to me to be essentially paradoxical, and the difficulties inherent in it very great. Whoever adopts this view is obliged to hold that in pure, or, to use Dr. Morgan's term, "single" algebra impossible or imaginary quantities are an anomaly, and that they receive whatever meaning they have as something tacked on from the outside by this application to a particular subject-matter. This would simply be an unaccountable process in any logical theory of the movement of thought. Moreover it evades precisely the point which has to be explained, *viz.*, how an imaginary expression which arises quite out of itself and independently in single algebra, in the ordinary development of the subject (if at the same time somewhat of a prodigy and none too welcome) should nevertheless be capable of performing most useful work when the notation comes to be applied to what is, in appearance at least, an extraneous field; or, conversely, that a new subject-matter should be capable of receiving valuable, nay, indispensable aid from what, in its own native land is a sort of intellectual outcast, or, at best, a mere artifice. The view which I venture to advocate is the very opposite, *viz.*, that imaginary quantities have a real meaning in single algebra, and that, if a problem exists, it is to explain how this meaning finds its way into more concrete forms of inference and receives application in the material inferences of geometry.

I therefore propose to state :—

(1) The logical theory of the imaginary.

(2) To illustrate the application of the theory in some departments of mathematics.

(3) To make a few remarks on the relation of the logical calculus of Boole to that of Grassmann's *Ausdehnungslehre* and to ordinary algebra.

The fundamental characteristics of algebra as contrasted with arithmetic is a certain indefiniteness attaching to its symbols. By this I do not mean that the letters employed may represent either known or unknown quantities, but the fact that the ultimate character of the quantity is left undetermined; and hence follows a surprising characteristic, that whereas in logic it is a fundamental principle that from truth only truth can follow, in certain operations of mathematics both true and false conclusions may equally follow from the data supplied. But inasmuch as the operations of mathematics are still, at bottom, conformable to logical laws, it will follow that a point will necessarily be reached when this indefiniteness will be removed. In logic, the indefiniteness which attaches to a disjunctive judgment, is necessarily got rid of, when that judgment is contradicted. In mathematics, the same point is reached, when we endeavour to extract the root of a negative quantity.

This gives us the clue to the logical theory of the Imaginary or the Imaginary of Logic as it may be termed. It was already recognised by De Morgan, and has since been pointed out and emphasised by Schroeder (*Operations-kreis des Logik Kalkuls* and *Algebra der Logik*) that the conjunctive "and" is the opposite of the disjunctive "or". In contradicting a disjunctive proposition, the contradictory is conjunctive.

We might therefore infer from this, that, inasmuch as $\sqrt{1}$ has two roots, one positive and the other negative, which are disjunctively related to each other as alternatives, so the $\sqrt{-1}$ will involve the same roots, no longer disjunctively but conjunctively related. Or, the expression $\sqrt{1}$ will mean, simply, that 1 is to be multiplied with another 1 similar in sign to itself; whereas, $\sqrt{-1}$ will mean a 1 which is to be multiplied by a 1 dissimilar in sign to itself. The whole mystery, therefore, underlying this symbol is that the identity or equivalence in the factors which is quantitatively implied, does not extend to the qualitative relation represented by the signs + and −. This is already recognised in all interpretations involving the concrete application of the imaginary symbol. If we substitute for $\sqrt{-1}$ a symbol, say, $+ (-)$, expressive of this logical analysis, we shall find it acquires different meanings in different systems of mathematical analysis. It is identical with the "law of duality" of Boole. If V be an independently interpretable logical function, $V(1-V)=0$. Boole terms this equation the condition of the interpretability of logical functions. It is quite clear that Boole regarded $V\ (1-V)$ as discharging an analogous function in logic to that performed by $\sqrt{-1}$ in algebra; though the work contains no hint of the substantial identity of the two, which is here maintained. In point of fact, the diverse application which the function receives in logic and in mathematics establishes points of contrast sufficient to obscure the identity. In logic, precisely that element is excluded which characterises the imaginary in its application to mathematics. I shall refer again to this point when concluding, here merely remarking that the only writer who has attempted to make a mathematical use of the purely logical form is Hegel, $V\ (1-V)$ is the Notion of Hegel.

If we turn from the logical calculus to trigonometry and substitute in De Moivre's theorem the symbol I have proposed for the usual $\sqrt{-1}$, we shall find that the results work out identically with the ordinary form of the theorem. We can apply also to this symbol the interpretation of rotation through a right angle, and as an immediate consequence we might arrive at that double interpretation of a line proposed many years ago by the late Prof. Sylvester in the *Messenger of Mathematics* and which subsequently formed the subject of controversy between Cayley and Sylvester in connexion with the Carnot-D'Alembert problem. The issue between these eminent mathematicians depended as I conceive on this, that Cayley and Mrs. Ladd-Franklin (who also took part in the controversy) regarded the signs + and − as admitting of alternative interpretation in time or space, whereas Sylvester held the necessity of maintaining both interpretations at once.

Before leaving this subject of the application of the imaginary to geometry, I cannot forbear from touching on a question which has been agitated in the pages of *Nature* and elsewhere, *viz.*, the principle that the square of a vector should be negative. It has been claimed that to omit the (−) is not only essential to the physicist but is more consistent with ordinary algebra. Here again, the principle of the interpretation of the imaginary, advocated above, gives the clue. The imaginary, as a conjunctive relation of + and −, is on the one side identically related to a given direction, and in this relation would answer to the ordinary operations of algebra; but as non-identically or dissimilarly related (and in a directional calculus such as Hamilton's this is the dominant point of view) the (−) sign must be retained. Hamilton was therefore justified in saying "every line in tridimensional space has its square equal to a negative number, which is one of the most novel but essential elements of the whole quaternion theory" (*Lectures*, p. 53).

The analysis we have given admits of other illustrations as in Determinants. I now pass on to the more general question of its effect on our conception of the relation of the logical calculus to other branches of analysis. The idea of a symbolical calculus which should be perfectly general and applicable to all kinds of investigations is one which has frequently presented itself to both logicians and mathematicians. The idea occurs in the *Discours de la Methode* of Descartes. Such a calculus, Leibnitz seems to have had before his mind under the name of *Characteristica universalis* and Comte also in a passage in the *Synthése Subjective* seems to have contemplated the same idea. It might also be said that Newton's definition of algebra as *Arithmetica universalis* implies the conception as an ultimate consequence. Boole maintained such a view in an article in the *Philosophical Magazine.* The idea of the isolation of the specious, universal or formal element of arithmetic or any other science, seems to lead to the conception of a theory of forms which should be perfectly pure and admit of general application, varied only by the conditions of the peculiar matter to which such a calculus is applied. Thus, the "principle of the permanence of equivalent forms" is regarded by Peacock as expressing the law of transition from an algebra arithmetically conditioned to a more universal, a symbolical algebra. The only question seems to be, at what point shall this transition process cease, and *a priori* there seems no reason why it should cease, before it has brought the processes and inferences of every science within its scope. This is the real difficulty, in attempting to generalise from particular operations a general calculus of functions or operations. Shall it include under it, for example, the symbolism of chemistry? Such a universal science seems to become as empty of all real content as the old Aristotelian logic. The attempt to evolve in a symbolic calculus certain laws and methods common to a variety of symbols of operation, is apt to leave as a residuum simply the general notions of similarity and difference, connexion and separation. The result is formal logic, and formal logic not brought into any organic connexion with the material from which it is evolved.

The same problem thus presents itself to the logician and mathematician only viewed from opposite sides. The mathematician rises from the conception of particular laws and operations to the conception of the most general laws governing all operations. Logicians begin with the latter, but have not been successful in throwing light on the former. They have either dismissed the forms of mathematical inference as material consequences, or added them on empirically to inductive logic. A tendency has of late arisen to bring some of the forms of mathematical inference under what has been called the logic of relatives, but no satisfactory theory of the relation of such forms of inference to the ordinary logic has been put forward. Jevons seems to regard them as disguised cases of formal inference. De Morgan represents the opposite tendency and rather looks at formal inference itself as a refined residuum of material inference. In reality I believe there exists the closest connexion between all the forms of logical inference and of material inference, but the relation is not one of generalisation. In the theory of the imaginary which we have been discussing, we have only one instance out of many of such connexion. The only writer who has in general attempted to conceive the various categories of objective logic, not only as standing in systematic connexion with one another, but also as organically connected with the forms of subjective logic, is Hegel. His theory of the organic growth of the one from the other is opposed to the view which we are about to indicate, but has in common with it that it does not present the relation as one of mere degree of generality. The connexion of these two systems of forms is too vast a subject to be treated within the limits of this paper. It is only possible to briefly point out the general distinction which exists between the processes of formal and material thought and their relations to concrete sciences, such as mathematics. The view we shall present is an expansion of the following remark of Grassmann's in the *Einleitung* to the *Ausdehnungslehre* of 1844 :—

"Die formalen Wissenschaften betrachten entweder die allgemeinen Gesetze des Denkens, oder sie betrachten das Besondere durch das Denken gesetzte, ersteres die Dialektik (die Logik) letzteres die reine Mathematik".

This passage contrasts logical inference based on universal laws of thought with mathematical resting on the particular. In principle, the calculus of Boole's *Laws of Thought* is identical with the ordinary logic. No inference can be drawn in the former which cannot also be drawn in the latter. It has all the weakness of formal logic in dealing with material consequence. It may be regarded as the limiting case of material inference. If we compare such a calculus of logic with the caculus of the *Ausdehnungslehre,* we shall find that the leading characteristic of the former is that it treats the terms with which it deals as self-identical units, which may coincide or not but between which no other relation can exist. The equations by which it is distinguished are :—

$$x^2 = x.$$
$$x\ (1\text{-}x) = 0.$$

On the other hand the *Ausdehnungslehre* presents equations the opposite of this :—

$$a^2 = 0.$$
$$a\ b = -\ b\ a.$$

It is evident that the literal symbols in the first set of equations have their value residing in themselves; those of the second set have their value in relation to each other, and in the character of that relation. The one calculus views the units with which it deals, as identical, self-related, coinciding or not coinciding but otherwise unrelated to each other. The other calculus regards its objects as existing only in relation, as constituted by relation to something different and out of that relation becoming zero. The connexion between these two algebras is not external or contingent. They are united by reason of the necessary synthesis of thought with objects of experience. Ordinary mathematics employs both processes of inference. In imaginary expressions the absolute disconnexion which the abstract use of the negative in ordinary logic involves is overcome by means of the opposite principle of relativity and necessary synthesis.

VI.—DR. WARD'S REFUTATION OF DUALISM.

By Miss E. E. C. Jones.

In the interests of an idealistic view of the world, for which in his Gifford Lectures[1] Dr. Ward so powerfully pleads, he endeavours first to disprove the Naturalism and Agnosticism to which, as it seems to him, a widespread rejection of idealism is due. He has in view here primarily those who "are dominated by naturalistic preconceptions," holding that with them at any rate Theism has no chance of acceptance until an idealistic view has been established, towards which consummation a disproof of Naturalism and Agnosticism must be the first step.

But the real force of this disproof of actual mechanical theory is to be found in the fact that the careful examination to which it is subjected shows the mechanical member of the dualism into which experience has been split, to be (in the isolation which has been forced upon it) a poor travesty of reality, and quite incapable of standing alone as an explanation of any part of the concrete world. The argument of Parts i., ii. and iii. is indeed lucid and convincing, even without regard to what follows; but its full weight and meaning do not appear until it is re-read in the light of Part iv., the argument of which not only elucidates and reinforces the conclusions previously reached, but shows that *any* merely mechanical scheme of the world must necessarily fail, since any such must be based upon a futile attempt to separate completely factors which in living experience (and therefore for philosophy) are inseparably connected. This is quite compatible with its being necessary to make the separation provisionally for purposes of scientific or practical convenience.

I propose to follow in order, though not of course in detail, the indictment against Naturalism, before considering the argument of Part iv.

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[1] *Naturalism and Agnosticism*, the Gifford Lectures delivered before the University of Aberdeen in the years 1896-1898 by James Ward, Sc.D., Hon. LL.D. Edinburgh, Professor of Mental Philosophy and Logic in the University of Cambridge. 2 vols. London: Adam and Charles Black, 1899.

What Dr. Ward understands by Naturalism is a "doctrine that separates Nature from God, subordinates Spirit to Matter, and sets up unchangeable law as supreme. It means . . . 'the extension of the province of what we call matter and causation and the concomitant banishment from all regions of human thought of what we call spirit and spontaneity . . . [till] the realm of matter and law is coextensive with knowledge, with feeling, with action'. This naturalistic philosophy consists in the union of three fundamental theories: (1) the theory that nature is ultimately resolvable into a single vast mechanism; (2) the theory of evolution, as the working of this mechanism; and (3) the theory of psycho-physical parallelism, or conscious automatism, according to which theory mental phenomena occasionally accompany but never determine the movements and interactions of the material world" (i., 186).[1]

These three theories accordingly the author considers in Parts i., ii. and iii. of his book. He here accepts provisionally the mechanical view of the universe, and traces its development and implications, and it is only when it has been shown to be a broken reed even in the hands of its adherents—when the unsatisfactoriness of the real principles of Naturalism as actually current has been proved from within—that a complementary line of argument is taken up in Part iv., where we have an explanation of the way in which the assumptions at the root of Naturalism and Agnosticism grew up, and a clear exhibition of the true place and methodological character of the theory.

It is as philosophy that Naturalism "aspires to resolve the actual world into an actual mechanism," holding (with Laplace) that "an intelligence who for a given instant should be acquainted with the forces by which Nature is animated, and with the several positions of the beings composing it, if further his intellect were vast enough to submit these data to analysis, would include in one and the same formula the movements of the largest bodies in the universe and those of the lightest atom. Nothing would be uncertain for him; the future as well as the past would be present to his eyes." And as the material world includes human beings, the alteration of "positions" due to them has also to be taken account of, hence "before the future can be deduced from the past all motives must admit of mechanical statement, and the motions of matter and its configurations be the sole and sufficient reasons of all change".

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[1] The references are to *Naturalism and Agnosticism* unless otherwise stated.

Abstract, hypothetical, merely descriptive and only approximately applicable to reality as this mechanical scheme is, it must no doubt be admitted that granted a knowledge of the *positions* and *forces* in a given system at a given moment, both future and past positions and forces might theoretically be deduced by an intellect "vast enough," on the supposition of there being no interference—that is, no alteration from outside the system in quantity or direction of force.

But since any scheme of the Universe is bound to take all the facts of experience into account, we must ask, what has the Mechanical Theory to say not only to the phenomena of life and mind, but also to the qualitative differences which are found even in inanimate objects? Can these be in any way brought to a mechanical statement?

Such answer as can be supplied to this question, must be furnished by Molecular Mechanics. Can "all physical phenomena—however complete, however ultimate, however numerous their qualitative diversities may be, and remain, for our perception . . . still be shown to correspond to, and be summed up by, purely dynamical equations, such equations describing the configurations and motions of a system of masses called molecules from their minuteness"?

As contrasted with Molar Mechanics, molecular mechanics turns out to be Indirect instead of Direct, and Ideal or Fictional instead of merely Abstract. It resolves the physical characteristics of sensible bodies into mechanisms and these mechanisms into non-matter in motion. Thus it ceases to be even descriptive of "what actually goes on" in the real world, and its objects are mere fictions of the understanding, not even conceivably presentable facts—and we find that, even as regards inanimate things, the Mechanical Theory "begins with real bodies in empty space, and ends with ideal motions in an imperceptible plenum . . . begins with the dynamics of ordinary masses and ends with a medium that needs no dynamics or has dynamics of its own". And if for Mass is substituted Energy, and for Mechanical Physics the Science of Energetics, the case does not seem to be much amended. According to this new doctrine all change is a transference or transformation of energy.

But when we find that according to the accounts given by physicists matter is nothing but a vehicle or receptacle of Energy and cannot be known apart from energy, and that all which we perceive of external objects is due wholly and solely to energy and energy alone, matter seems to vanish and nothing remains but energy and its transformations. Of the several forms of energy, it is only quantitative equivalence that can be asserted—we have neither *a priori* nor *a posteriori* grounds for concluding that forms of energy qualitatively distinct are of fundamentally the same nature—that is, that they are at bottom mechanical. And, moreover, we are not justified in supposing that there are no qualitatively different forms of energy except those already known to us.

As to the doctrine of the Conservation of Energy, on which Mr. Herbert Spencer tries to base his Theory of Evolution, it is shown (i., 172) that the two grounds on which this doctrine is assumed are (1) that it is borne out by experience as far as we know, and (2) that it seems the simplest and best working hypothesis—it "tells us nothing about the quantity of energy in the universe as a whole, and does not even allow us to say that such quantity is an amount eternally fixed" (i., 171). In Dr. Ward's view the principle of the Conservation of Energy regarded as a postulate, is the principle of Causality in a quantitative form applied to physical changes. It is a real principle, but it is only the quantitative relations of physical processes that it renders intelligible. To the qualitative differences in physical processes the Conservation of Energy has nothing to say (i., 176).

The difficulty of dealing with qualitative differences from the mechanical standpoint is at its height when we come to psychical phenomena; and in chapters ix. and x. of Part ii., in which Herbert Spencer's treatment of Life and Mind and Biological Evolution as understood by Lamarck and Darwin and their successors, are discussed, we turn to the consideration of such phenomena, and especially to the question, how it is possible to get from Inorganic to Organic Evolution and from Life to Mind, by help of the single principle of Conservation of Energy.

Dr. Ward shows that Mr. Spencer in his doctrine of Evolution confuses (1) *energy* and *work*, (2) *evolution with guidance* and *evolution without guidance*, and that as a result of his rejection of a "definite primitive collocation," the cosmos can be for him but a chance hit among many misses. He points out the impossibility of deducing the phenomena of celestial, organic and social evolution from the principle of Conservation of Energy taken alone, and criticises Mr. Spencer's three principles of interpretation—the Instability of the Homogeneous, the Multiplication of Effects (= the effect is always more complex than its cause) and Segregation (by which is meant that aggregates composed of dissimilar units are, by some force acting indiscriminately on them all, segregated into groups of similar units, i., 238).

In considering Spencer's treatment of Life and Mind, Dr. Ward explains that it is only by a confusion between a *strictly mechanical* and merely *figuratively mechanical* use of his formularies that Mr. Spencer has succeeded in persuading himself of the possibility of extracting progress, history and meaning out of a purely mechanical theory.

It is shown that he confuses Analysis with Abstraction, and abstracts until there is nothing left, and then in the 'rational synthesis' which follows this 'ultimate analysis,' brings back elements which had really been eliminated—the illegitimacy of the procedure being veiled by the principle of continuity and the gaps existing in scientific knowledge.

With regard to the step from Inorganic to Organic Evolution, Mr. Spencer explains that two volumes of the Synthetic Philosophy are missing—the volumes on Inorganic Evolution, which should come in between *First Principles* and *The Principles of Biology*. "The closing chapter of the second" [volume on Inorganic Evolution], he says, "were it written would deal with the evolution of organic matter—the step preceding the evolution of living forms. Habitually carrying with me in thought the contents of this unwritten chapter, I have in some cases expressed myself as though the reader had it before him, and have thus rendered some of my statements liable to misconstruction." Meanwhile no hint of any rational advance from Inorganic to Organic has been furnished either by Mr. Spencer or any of the biologists who during the last quarter of a century have been perplexed by this problem.

When we come to the transition from Life to Mind we find that what has to be done is to interpret in terms of Matter, Motion and Force phenomena into which matter, motion and force do not enter (i., 266). "The difficulty is twofold; first to get rid of extension, and then, since with extension matter goes too, to get back the real in some other form." How Mr. Spencer accomplishes this is indicated in a quotation from the *Principles of Psychology*, i., 401, 2nd ed. "Speaking generally therefore we may say that while the physical changes are being everywhere initiated throughout a *solid*, the psychical ones, or rather those out of which psychical ones arise, admit of being initiated only on a *surface*. . . . Those abilities which an intelligent creature possesses, of recognising diverse external objects and of adjusting its actions to composite phenomena of various kinds, imply a power of combining many separate impressions. These separate impressions are received by the senses—by different parts of the body. If they go no farther than the places at which they are received, they are useless. . . . That an effectual adjustment may be made, they must all be brought into relation with one another. But this implies some centre common to them all through which they can pass; and as they cannot pass through it simultaneously they must pass in succession, so that as the external phenomena responded to become greater in number and more complicated in kind, the variety and rapidity of the changes to which this common centre of communication is subject must increase, there must result an unbroken series of these changes—*there must arise a consciousness*" (i., 267, 8). When we supplement this by reference to the chapter on the Substance of Mind, and learn that the concepts of Mind and Matter are only mere symbols of some unknown and unknowable Power, and that whether Mind should be expressed in terms of Matter, or Matter in terms of Mind is "a question scarcely worth deciding," while at the same time "*all* phenomena" are most simply expressible in terms of Matter, Motion and Force, and on the other hand, "to translate so-called Spirit into so-called Matter" is "wholly impossible"—we are driven to the conclusion that as regards this problem, at any rate, the Synthetic Philosophy is inextricably confused and contradictory.

In Biological Evolution "the problem is merely to explain the diversity of living forms, and that not by the help of mechanical but of biological conceptions," and it appears that the greatest biologists do not even suggest a mechanical origin of life, and among the "factors of organic evolution" are constrained to recognise some that are teleological. And we find that in biology *organism and environment* are as strictly correlative as *subject and object* are in psychology, while in comparing the world of living things with inanimate nature, it seems that in the latter there is a "uniform tendency to pass in the shortest and easiest way to physical quiescence, fixity and equilibrium"—to follow, that is, the line of least resistance—and in the former we find "a steadily-increasing differentiation of structure and composition, entailing a large storage of potential energy". And the psychological aspect of this increasing differentiation brings us face to face with the principles of Self-conservation and Subjective Selection. Both of these involve feeling and activity, and are real and concrete, instead of being merely metaphorical (i., 297) like Natural Selection—the difficulties of which theory are very much lessened by the acceptance of Subjective or Hedonic Selection, which will account for variations on which Natural Selection may act, and removes the tremendous difficulty in the way of understanding by means of Natural Selection cases in which utility results from the co-ordination of a number of variations which are separately useless (i., 300).

What we have had up to this point is a prolonged and careful investigation, first of the Mechanical Theory and then of the Theory of Evolution. These as set forth by their most able and accredited expounders, have been invited to say the best they can for themselves, but have revealed both their inherent weakness as systems, and their failure to apply to the concrete phenomena of the real world. Matter has vanished into "non-matter in motion," the account of Evolution given by the Synthetic Philosophy turns out to be on the one hand incoherent, on the other unable to deduce Mind from Matter; Biology as expounded by the ablest biologists, is found to involve teleological and psychical factors.

In the Theory of Psycho-physical Parallelism (Part iii.) Mind is explicitly taken into account, and this theory in its various forms endeavours to find an answer to the question: How are psychical changes related to the physical changes in the organism?

There is not space to examine at any length the admirable discussion carried through in Part iii. It is first explained how, accepting the dualism of Extended Substance and Thinking Substance formulated by Descartes, Psychology and Physics, dropping the notions of Substance and Cause, have each elaborated conceptions suitable to their own sphere of inquiry, quite apart from any reference to their ultimate co-ordination. On the one side we have Mass, and quantitative relations expressed in equations of Motion; on the other Consciousness, a flux of presentations; and the Category of Activity, or Inherent Efficiency, which it should belong to psychologists to investigate, is often by them regarded with suspicion for the very inadequate reason that it is not appropriate in that opposed sphere of science which deals with dead mass, and they substitute for an examination of psychical activity an inquiry into the relations of co-existence and sequence which hold between psychical events and physical movements. The theory of Psycho-physical Parallelism has to be treated under three heads:—

(1) A series of physical changes or brain-processes.

(2) A simultaneous series of psychical changes or processes accompanying them.

(3) The relation between (1) and (2), which is assumed to be not a relation of interaction.

The only correspondences of the physical series that we know of are correspondences between states and processes of nerve tissue, and states and activities of consciousness, and the view that these are not a relation of interaction, is not due to experts in physiology or psychology, but is a result of accepting the assumptions of the mechanical theory. There would seem to be great difficulty in giving, in definite and precise terms, any parallel account of the psychical series with all its qualitative diversity and quantitative vagueness. And there is the further difficulty that "if this psychical series is to be my experience as it is for me, or yours as it is for you, then *all those external perceptions which are the physicists' prime data, and all the conceptions whereby they are summarised, belong to it and are the outcome of its processes.*[1] So regarded, they form a unity; within this unity we find indeed a duality, that of the correlative subject and object, but we find no dualism of external and internal, physical and psychical, matter and mind. To come within the range of such a dualism and to justify any notion of parallelism, we must leave the properly psychological standpoint of my experience as it is for me, or your experience as it is for you. We must take up instead the standpoint of my experience as it is for you, your experience as it is for me. Then, indeed, as I am for you primarily a portion of the physical world, and you in like manner for me, it becomes natural to locate each one's experience inside his skin, his environment being outside it; to say that of the chairs and tables, moon and stars, and the rest of this external world he has ideas; to ask the puzzling question how these ideas are produced or whereabouts inside that skin the thinking thing is; and finally to take his body to pieces in the hope of answering the question. But this is still not the worst; for once accustomed to speak of one's fellowman's experience as made up of ideas in that man's head, one is led by parity of reasoning to think the same of one's own experience. And there is at least one further source of confusion still, when from concrete experiences in which the individual percipient is plainly recognised, has his name, place and date and his manifold idiosyncrasies, we pass to what is known as the scientific or objective standpoint, where the subject experiencing is entirely ignored" (ii., 10, 11). Suppose we take it for the present that when we speak of the parallelism of physical and psychical series, by *psychical* is meant my experience not as it is for myself but as it is for the psychologist who is studying my brain and my organs of sense and movement. Even then, when we come to ask what is meant by the *parallelism* of the two series, their absolute disparateness seems to exclude entirely that serial correspondence which is what is understood to be meant by *parallel*. It is not necessary to follow Dr. Ward's account of the unsuccessful attempts to introduce a substantial unity where we have not succeeded in getting any qualitative unity (ii., 15-21) which are made in Clifford's theory of Mind-Stuff (which turns out to be only a crude form of materialistic Monism under a fresh name) and in the Two-Aspects Theory—which fails "to indicate the unity to which [the aspects] belong and to show that they have such congruence as befits complementary sides or aspects of the same thing".

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[1] Italics are mine.

These endeavours breaking down, we go on to the *Conscious Automaton* Theory, according to which there is invariable concomitance between the series, but no causal interaction.

The theory of Psycho-physical Parallelism is represented by its supporters as a strict inference from facts (ii., 6) and no mere speculation, but Dr. Ward undertakes to show that both these assertions are inaccurate, and that the basis of the theory is that Cartesian dualism which he regards as speculation of the most questionable kind. He shows that the 'Conscious Automaton' doctrine has defects which oblige us to doubt its implicit assumptions, and then (in Part iv.) proceeds to expose the shortcomings of that Dualism which the theory of Psycho-physical Parallelism presupposes.

In Conscious Automatism the dualism between the psychical and physical series is accepted as complete, and their concomitance as invariable but not causal—there is coexistence in space and time but no interaction. But the self-contained completeness of the psychical series is threatened by *Sensation*, and that of the physical series by *Life* (ii., 25, etc.). Here Dr. Ward points out that if the two series are really independent and separate, each going along by itself, both parallelism and interaction are alike inconceivable, and if they are really members of one whole, they cannot be severed from each other and yet be the same as they were before. "Constant parallelism *plus* absolute separation is logically so unstable a combination that of necessity one or other term must be dropped" (ii., 29). And accordingly we find that the adherents of Conscious Automatism do either lapse into some form of crude monism, or subordinate one series to the other, and the upholders of Psychical Epiphenominalism maintain the contradictory positions that on the one hand there is no causal connexion between the two series, and yet on the other the psychical is a collateral product of the physical (i., vi.). If Mind is thus resolved into the absolutely ineffective shadow and accompaniment of mechanical phenomena, and volitions do not enter into the chain of Causation, their activity vanishes altogether from the world. But we can only accept this result if we ignore or deny individual experience, of which activity and the realisation of ends are elements.

What Dr. Ward is concerned to insist on in Part iii. (in addition to pointing out the defects of theories of Psychophysical Parallelism), is, that an appeal to experience forces us to admit the reality of psychical phenomena of an active kind, and to recognise that human volitions do affect the *objects* of our experience—that they do invade the mechanical sphere at least as a *vis directrix*. This seems as much matter of direct experience as anything can be; and its acceptability from a theoretic or systematic point of view becomes more obvious after a perusal of Parts iv. and v.

So far we have seen that the attempt to explain the world purely from the mechanical side breaks down at every stage—but it is only when we come to Part iv. that Dr. Ward is able to put his case, whether for criticism or construction, in the strongest form. Hitherto he has on the whole only attempted to discredit the current assumption of the dualism of Mind and Matter in as far as it has given way under every existing philosophical scheme based upon it or has come into obvious conflict with fact. He goes on in Part iv. to examine this dualism itself—to show how it has arisen, and how if set up as more than a convenient methodological device it is in direct opposition to actual experience, and fatal to the construction of any coherent philosophy, and confronts both the naturalist and the psychologist with insoluble problems. The treatment of Dualism and Duality in this Part iv. seems to me to be the most impressive part of the book, and to be of extraordinary value and originality. And the author's method here is still an argument *ad hominem*—he says in effect to the Naturalist, You have appealed to facts of experience, and to facts of experience we will go.

We have, it seems, for the most part been struggling on in Science, Philosophy and Religion, hampered by a false theory which now appears to be as much a blunder as it has been found to be a hindrance. It has been as embarrassing to the psychologist as to the naturalist, making the question of the relation between body and mind hopelessly perplexing to the naturalist, and that of the perception of an external world equally baffling to the psychologist. To trace home and unmask a view so worked into past and current thought, so generally accepted without question, so embodied in the very vocabulary which the critic has to use, was an enterprise requiring extraordinary insight, patience and courage. It will probably prove to have cleared out of the way many confusions of thought.

Part iv. takes up afresh the examination of the theory that "if we are to exhibit the sum of things from the beginning and connect each to each completely, we must start from matter and motion" (ii., 99), but it now approaches the question from the *formal* or more general side, and proceeds to inquire expressly into the nature and assumptions of knowledge. We turn to actual experience, and endeavour by reflexion upon it to escape from the perplexities of Dualism and that Agnostic Monism or Revised Materialism which those perplexities have brought into fashion (ii. viii.).

When we analyse experience, what we do find is *not* a Dualism of Matter and Mind, but a duality in unity of Subject and Object. And Experience does not begin with a disconnected manifold, but in every concrete experience, as there is one Subject so there is one Object; "the Subject is continually in touch with one world, one environment, ... given a subject or centre of experience, and such an objective complement; then the most salient feature is their interaction: the feelings that objective changes induce in the Subject and the Actions to which such feelings lead". Our difficulty in this investigation is that the relation between Subject and Object in Experience is fundamental and ultimate. "To enounce," says Dr. Ward, "that Experience is a whole or more precisely a continuity, that it consists in the correlation of Subject and Object as its universal factors, is a statement that seems to tamper with no facts and to involve no hypotheses" (ii., 130).

It is further maintained that every concrete experience is self-conservation, is Life—that subjective selection is determined rather by the 'worth' than by the 'content' of objects,—by their value and interest to the Subject, than by their intrinsic characteristics, that Conation is more fundamental than Cognition, and that even spatial and temporal relations involve elements due to activity initiated by feeling.

Passing to consider the relation between individual experience, and Experience as the result of intercourse between individuals (intersubjective intercourse), it is shown that the second—the empirical knowledge which men have in common, systematised and formulated by the help of abstract conceptions—is really only an extension of individual experience. The current Dualism of Mind and Nature is shown to have arisen from the fact that while Psychology undertook to deal with individual ('Subjective') Experience, Natural Science occupied itself with 'Objective' or Common Experience; and we may therefore hope to refute Dualism by making clear the relation of these two forms or phases of Experience.

Each individual in his own private experience is face to face with objective reality in the most fundamental sense—for even Sensations are essentially objective—are for Cognition a 'this' and a 'what'—have inalienable characteristics (*cf.* ii., 113, 116). In this experience the stage in which there are definite conceptions is preceded by a stage in which there are none, and in the earlier stage there is no distinction between percept and object, no trace of Dualism. To illustrate the organic unity of individual experience, Dr. Ward considers it with reference to Range in Time, Familiarity or Expertness and Intellective Synthesis. With regard to the first he points out that for any experience at all there must be an enduring present and for its fuller development some memory of the past—this of course implies a measure of that abstract generality or universality which is opposed to merely concrete particularity. What we know as past has the marks of the past about it, and as we know present objects immediately, so what we remember—our own past experience—we know immediately also. Its "temporal signs . . . plainly bespeak that unity and solidarity of individual experience that only subjective activity and interest can bring about" (ii., 158). "In this way there arises at once our subjective or biotic time, along with its concrete 'filling,' both inseparable from the individual subject to which as its own objective experience they immediately pertain. It is from this that we advance to the mediate conceptions, first of trans-subjective or common time, and finally of absolute time. Again it is from the immediately presented content of this subjective time . . . that we proceed to range events chronologically in the common historical time which we come to think of in dualistic fashion as independent of all subjective factors" (ii., 158). Space is shown to be amenable to similar general considerations (including some ubiquity in individual experience, analogous to the more or less *enduring now* above referred to); and if the account of both which is here put forward is accepted, it would seem that the relation traced between *biotic* and *absolute* Time and Space, opens a way of escape from some of the difficulties which have gathered round those conceptions.

In the consideration of Familiarity or Expertness it is urged that there can be no beginning of experience from a *tabula rasa* or from a chaotic manifold (in this respect the theory here put forward is an improvement upon Kant), and that any uniformity on the part of the object would remain unknown and meaningless to any subject not itself characterised by continuity and uniformity. What we really mean when we talk about uniformity of Nature is uniformity of Experience. No experience deals either with things *per se* or with the totality of things—a subject having some of that selective power which belongs to all living things, can secure an orderly environment of which it is itself the centre. There seems no warrant for the assumption made by dualism of a uniformity apart from experience—the uniformity of Nature upon which *Science* depends is entirely conceptual. Apart from subjective interest and activity we could never predicate unity or plurality, never have repetition of experience or the increase of uniqueness and definiteness which goes along with development of experience. And however far this increase of definiteness may proceed, we never transcend the duality in unity of subject and object, the objects are always *objects of the subject:* as little as I can ever "catch myself without some perception," just as little can I ever catch a perception which is a perception without me. There is always a duality in unity which has the character of an organic whole.

By Intellective Synthesis is meant those features of individual experience which first make intersubjective intercourse possible—especially the Comparison which is first suggested by practical needs, and leads to the recognition of similarity in things and events that are partly different (ii., 164). And "Conation and Cognition working always together, the individual subject comes to distinguish its own body or self from other bodies as not-selves, and to attribute to them also likes and dislikes and the power to know and to do. It is obvious that the presence of other individuals of its own species within its environment, together with its peculiar interest in these, will facilitate the recognition of both as selves, and so in turn make the recognition of other sorts of selves easier" (ii., 164, 165). The important question here is, How does the individual come to a consciousness of

Common Knowledge (ten men and one sun, *e.g.*)? Each experience is as a whole unique and incommunicable—in this individuality consists—but for common intercourse there must be some common knowledge. Dr. Ward points out that this intersubjective intercourse probably begins with such a simple procedure as pointing to this or that object, and upon that in the object which is the same or similar for all is based the possibility of communication (ii., 167, etc. *Cf.* Bradley, *Appearance and Reality*, 2nd ed. pp. 250, 254, 255, 258, etc.).

As far as practice and history are concerned there is no appearance of discrepancy between individual and common knowledge, since in both we deal with the concrete cases which are real and unique. But it is different in the case of theoretical knowledge, since here intersubjective intercourse leads to dropping all reference to individual subjects.

This omission is traced to the working of three conditions which result from this intercourse between individual subjects—namely, the notion of the trans-subjective, the hypothesis of introjection, and the reification of abstractions. By Trans-subjective is meant that which is objective from the standpoint of universal experience, the *one* sun which is the common object of ten men who are looking at it. Since this sun is considered as independent of *any one* of the ten, it comes to be regarded as independent of *every one* of them, and so the reference to a subject is eliminated altogether and dualism begins. Introjection (ii., 172, 173) is akin in meaning to Animism, and has been explained in a passage previously quoted.

The dualism of Mind and Matter has perhaps been sufficiently disposed of. What is to be said of the "dualism" between the empirical and the rational, *i.e.*, between individual and trans-subjective experience? Dr. Ward refers here to the view of Kant (which he endorses) that "the two subjects must be at bottom the same individual and the two objects must be synthesised into one" (ii., 181; *cf.* 167, 171, etc.).

The Rational is simply universal, collective or conceptual experience, but all reference to a subject is dropped by Science, and so the rational subjectless object comes to be opposed to individual experience, with its perceptual subject. But the Rational and the Empirical cannot be severed. Rational or Universal Experience is only an elaboration of individual experience, and is continuous with it, the sole business of the intellectual forms of the one being to establish relations within the concrete reality of the other. And everywhere—for perception as well as for thought—Kant's

"Synthetic Activity" is fundamental, and we are emphatically told that it is always conative and never merely cognitive and that "the unity and constancy of the subject of experience are due to the nature of its activity" (ii., 192).

The difficulties raised about the source of the conceptions of Cause and Substance are met by showing that causality "is found, and found first of all, whatever be its validity, in our own doing and suffering. . . . Thinking is doing, and like all doing has a motive and an end" (p. 189). The notion of Substance (not substances) is shown to be just the bare idea of an undetermined something, reached by successive abstractions.

In part iv. the assumptions on which *any* Naturalistic scheme must be based are exposed and discredited, and the conclusion to which we are led is that the Dualism that has been accepted as a doctrine of Reality, is no more than a convenience of Scientific Method. Nature as known to us is "conformable to human intelligence" and "amenable to human ends" (ii., 254). "Apart from intelligence there is no intelligible world," and only for conscious subjects could uniformity of Nature have meaning or importance; and again the fact that conscious subjects have been able to mould their experience on these lines testifies to the spiritual nature of the object-element in that Experience, and in all the advance and development of knowledge there is "a constant reciprocity . . . between subject and object" (ii., 255). Reflexion has shown "that the unity of experience cannot be replaced by an unknowable that is no better than a gulf between two disparate series of phenomena and epiphenomena. Once materialism is abandoned and dualism found untenable, a spiritualistic monism remains the one stable position."

The whole argument appears to me to be thoroughly coherent, and the refutation of Dualism and the constructive suggestion put forward in the end to be of the very greatest interest and importance.

Here at last there does seem to be a hint, and more than a hint, of a real and actual unity in difference. We have, in the reality of concrete experience, a genuine duality—the finite spiritual subject in the strictest unity with its object, the otherness of which is as indisputable as its inseparability. There is also a certain unity in difference between the many finite minds which are objects to each other, and each of which interprets the rest as being of similar nature to itself. And if the so-called 'matter' which is object to them all, and by means of which alone each of them knows the existence and character of other minds—if this is indeed itself not foreign in nature, but mind or spirit like the rest (and to this conclusion we are driven)—then, in it too will be found the duality in unity of subject and object. We are here provided with a conception which may prove equal to accomplishing for the Absolute Idea a service similar to that which Utilitarianism accomplishes for 'Transcendental' Ethics, and the label *Spiritualistic Monism* seems to be rightfully applied to a theory which supplements the many finite spirits' which we each know directly (as ourself) or indirectly (as others) by an all-pervading spirit that on its own object-side is that concrete continuous Object which we have called the material universe, and the only non-ego that is ever directly presented to any finite subject. This seems to provide a possibility of supplying Lotze's view with a more satisfactory spiritual unification between the members of his Realm of Ends than he himself has indicated. But I am not, of course, sure of having fully grasped and rightly interpreted the view which is here suggested to us without being followed out into its consequences—and can still less profess to have tested it by application to all the questions which a theory of the universe has to take account of. As far as I can form a judgment however, it seems to be a real 'fetch' of genius (to use Dr. Bain's picturesque expression); and we are justified in supposing that a thinker so sure and penetrating, so patient, thorough and scrupulous as the author of this book has here and elsewhere shown himself to be would not have put forward, even in hint and outline, a philosophical view of such importance unless he had first severely scrutinised and tested it.

The greatness of the enterprise and the force and steadfastness with which it has been carried through tend to withdraw remark from those excellencies of style and articulation which together with fulness of detail and wealth of illustration are inestimable aids to the reader—though they make it all the more difficult to convey in a few pages any adequate idea of the work. And with all these helps to interest and comprehension, the view put forth—in itself, I think, both simple and irresistible—is perhaps too startling and reached by too much hard thinking, to meet with wide and easy and immediate acceptance.

VII.—THE DOCTRINE OF THE SUMMUM BONUM: A CRITICISM.

By Henry Sturt.

§ 1. The least observant student of the moral philosophy predominant in England just now must have noticed that its teachings are very much at variance with those of the preacher and practical moralist. The tone and phraseology of the one are quite different from those of the other. By the moral philosopher we are told that virtue is the intelligent pursuit of the highest good; while the preacher speaks to us of reverence, of charity, of single-hearted devotion, of self-sacrifice. Nor does the difference of phrase cover an identity of thought. We cannot translate one set of precepts into the language of the other, try as we will. The two parties do differ substantially in their interpretation of the main facts of the moral life.

§ 2. One answer to this reflexion is obvious. "If the philosophers and the preachers disagree, so much the worse for the preachers. On a question of the theory of virtue the expert is to be believed." In ordinary cases this would be a sound answer. On points of theory the theoretic expert *is* usually to be believed. But here I venture to think it is otherwise. The facts are complicated, and we have inherited a mass of misleading theory. The instinct and experience of the practical man have been truer guides than the teaching of the schools. He has never accepted that unfortunate doctrine of the Summum Bonum which is the subject of the present paper.

§ 3. The classical statement of the doctrine is given by Aristotle at the opening of the *Ethics*: "Every art and every kind of inquiry, and likewise every act and purpose, seems to aim at some good. . . . If then in what we do there be some end which we wish for on its own account, choosing all the others as a means to this. . . . this evidently will be the good or the best of all things." Thus human conduct according to Aristotle has a master-end, which is the Summum Bonum. After much discussion he identifies this master-end with eudæmonia or happiness. For the sake of a short title I shall call the doctrine of the Summum Bonum eudæmonism.

I shall presently argue that Aristotle's ethical formula is untrue; but, first of all, it is plainly inadequate. There is a great deal of moral conduct which falls outside it. For it has become a truism that righteousness, like unrighteousness, is an inward not an outward affair. It is the character, the self, the soul, the inner life of the actor that we call virtuous or vicious. And character expresses itself but partially and indistinctly in outward action. This is plain from considering a few cases of ordinary experience. We are constantly praising or blaming, rightly or wrongly, the persons or events of history. Let us imagine ourselves hearing an acquaintance express approval of the massacre of St. Bartholomew, or of the career of Cæsar Borgia. Here are moral judgments, exhibitions of character, themselves objects of our moral praise or blame. Where is the good pursued or the evil shunned? But we need not have gone to history for instances. We hear a man say savagely, "How I hate my father," and at once condemn him though we do not suspect him of intending to put his hatred into action. Conversely, we approve a man whose appreciations are well-directed. Such cases show that virtue and vice, the objects of our moral approval and disapproval, need not be the pursuit of a good.

§ 4. But Aristotle's formula is not even true as far as it goes. Any formula which suggests that virtue is the pursuit of a highest good gives an entirely false impression of its nature. Our motives of action may be divided into two definitely-marked classes, self-regarding and unselfish. The fault of all eudæmonism is that it describes morality in terms appropriate to self-regarding action.

§ 5. As my whole argument against eudæmonism depends on the validity of this analysis of conduct, it is necessary to pause a moment to justify it. The distinction between selfregarding and unselfish conduct corresponds to a plain distinction in our life, namely, the distinction between our narrower and our wider interests. The former are connected with our bodies and our lower emotions such as vanity and fear. When we are in the self-regarding attitude we are thinking about these, interested in ourselves in this narrow sense of self, or, if other persons and things do occupy our minds, we are interested in them only so far as they further those narrow interests of ours. On the other hand, in unselfish conduct we are thinking about other persons and the works of other persons in a spirit of appreciation which, where active expression is possible, shows itself as devotion. Most of our actual conduct is of mixed quality; it is partly self-regarding, partly unselfish. But the two elements are distinguishable on analysis.

§ 6. The precise significance for ethics of this division of conduct is that in unselfish action we have a peculiar feeling of doing what is, in the Aristotelian phrase "fair and noble," a feeling which is wanting in the self-regarding kind of conduct, and is often replaced by the contrary feeling of doing what is ignoble. It is on the ground of these feelings that we say that unselfish conduct is morally good, while self-regarding action is either neutral or bad.

§ 7. It is no weakening of our doctrine to point out that we cannot, within the limits of moral philosophy, explain this unselfish appreciation. Ethics cannot tell us why, for example, we have a devotion towards a friend whom we think to be very much better than ourselves. Even if the fact were totally inexplicable we should have to accept it if we found it in our moral experience. But the truth is that in each of the separate disciplines of philosophy we come upon fundamental facts which that discipline cannot explain, and can only hand over for explanation to the higher co-ordination of metaphysics. It is thus that the theory of art and the theory of knowledge, no less than the theory of morals, bring grist to the metaphysical mill.

But in a final attempt to co-ordinate the main issues of philosophy, the fundamental moral fact would not, I apprehend, give any special difficulty. It is one manifestion of our admiration for fulness and perfection of personal life, parallel in its nature to those other admirations which are the motive springs of art and knowledge. Nor is this devotion to life a strange thing if we believe that the universe beneath its veil of materiature conceals the life of God, who, himself the source of human existence, lives with a life not wholly dissimilar to our own, but carried up to an unimaginable pitch of intensity and perfection. However, our adoption or rejection of this metaphysical line should make no difference to our recognition of the moral fact, which is equally real whether an explanation for it be forthcoming or no.

§ 8. To this explanation we may add that the antithesis between self-regarding and unselfish action is not quite the same as that between selfishness and unselfishness in common language. My phrases embody the same general idea but they are intended to have a more precise and scientific meaning. Self-regarding action need not be selfish in the dyslogistic sense; it may be only neutral. Moreover we often speak of a man's conduct as selfish where we should not in strictly scientific phrase call it self-regarding. For instance, a man may injure the public service to further the interests of his family, and we may rightly blame him for so doing. But on closer inspection we may see that his conduct is dictated by unselfish motives of a certain kind; though they are not praiseworthy at such a conjuncture.

§ 9. Still less is our antithesis identical with that of egoism and altruism which play so great a part in Mr. Herbert Spencer's ethics. Mr. Spencer's egoism is action directed towards the attainment of one's own pleasure, while altruism is action directed towards the pleasure of others. But unselfish action as I have used the term has, primarily, no reference to pleasure at all; though, secondarily, it is true that pleasure is often involved. When we show devotion to our superiors we generally please them. To define unselfishness as action done to cause pleasure to others is, I venture to think, not only to misinterpret the conception but to degrade it.

§ 10. To the two kinds of action correspond the two main kinds of ethical theory, eudæmonism and what we may call moral idealism. It is characteristic of the former that it interprets morality in terms of self-regarding action; perhaps denies the possibility of unselfish action altogether. While moral idealism, in its various forms of intuitionism, moral-sense theory and duty-theory, sees that morality is essentially unselfish.

§ 11. The lowest form of eudæmonism, the hedonism which puts the highest good in momentary enjoyment, displays its fundamental error most consistently. The upward development of the theory is simply the process of taking in more and more of the truth while keeping the phraseology of error. Aristotle's *Ethics* are redeemed by extensive concessions in this direction. "To the courageous man courage is essentially a fair or noble thing." This might have been written by a moral idealist.

It may startle some to hear T. H. Green classed as a eudæmonist; but it is evident that he was quite captured by the fundamental doctrines of the school which he spent his life in opposing. This is too ordinary a phenomenon in the history of philosophy to cause astonishment. "The common characteristic of the good is that it satisfies some desire."[1] "In all enacted desire self-satisfaction is sought."[2]

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[1] *Prolegomena*, § 171.

[2] *Ib.*, § 158.

These two quotations suffice to stamp Green's ethical position. At the same time Green was a man of deep moral insight, and so his pages are full of truths about self-denial and devotion which are totally inconsistent with the framework of his theory.

§ 12. But moral idealism, expressing itself with varying degrees of clearness in its various forms, holds fast to the truth that moral action is in its essence an unselfish appreciation of what is excellent. This faculty of unselfish appreciation, which in active conduct becomes devotion, is not the rare endowment of generous natures, but is common to all rational creatures. It is no sentimentality but the soberest analysis which convinces us that admiration, love, devotion, enthusiasm, all forms of one faculty, are the forces which sustain and animate the fabric of human society. The same principle in other forms is the animating spirit of art, knowledge and religion.

§ 13. Purely negative criticism is always more or less unintelligible because it does not disclose its standpoint. In addition, it is always odious; because, to the human mind, a theory is a kind of habitation or shelter from intellectual nakedness. We justly dislike any one who pulls down the theory we live in without suggesting another. So I have felt compelled while criticising a false interpretation of morals to indicate however slightly what seems a better one. I will now specify the objections to eudæmonism in their natural order.

§ 14. The first and foremost is that it contradicts self-observation, which is the supreme arbiter in all questions of mental and moral science. If the reader, reviewing his inner personal experience with adequate psychologic insight, can testify that when he feels most decidedly moral his attitude is most decidedly self-regarding, then we have no more to say so far as he is concerned. If his experience is normal the world will agree with him and disagree with us; if abnormal, he is a deviation from the general human type, and can merely be an object of curiosity.

§ 15. The second objection is that eudæmonism in any form will not work in practice. To the coarser forms of hedonism we need not give a moment's attention. But take any form of Self-Love, however rational and refined, and try to live according to it and the outcome will still be revolting. A man guided by that maxim is one who thinks about his dear self all the time he is acting; and to think always about self, to guide all by self, is to dry up morality at its root. It is no answer to quote John Mill's observation that the best way to gain happiness is never to think about it. What you think of *is* your maxim. If you never think about happiness your maxim ceases to be egoistic. Mill's observation is a golden truth, but it gives away the basis of his ethics.

§ 16. Nor shall we find anything more workable in the self-realisation doctrine, a subtle form of eudæmonism which tries to persuade itself that it belongs to another class by quarrelling with its own relations. There is no doubt that the self-realisers belong scientifically to the same type as the utilitarians against whom they fulminate. Both found themselves upon a maxim of egoism. For to explain virtue as self-realisation can only mean that it should be each man's aim to build up an excellent character for himself. This seems to be the import of such formulæ as "Be a person" and "Realise the rational self".

But sometimes we hear it said when this interpretation is advanced, "You must remember that the truest self-realisation is often self-sacrifice". This is either a truism or a contradiction of the plainest deliverance of self-observation. If it only means that one's character is improved by a certain amount of self-denial, nobody will care to dispute it. It is false if it means that in making sacrifices we aim at improving our characters. Has the soldier any such thought when he faces the cannon? The mental attitude of the self-realiser is quite different from that of the self-sacrificer. To take an example from history, no one can seriously maintain that the same spirit animated the calm self-cultivation of a Goethe, aloof from turmoil, and the devotion of his contemporaries who risked everything to deliver Germany from the French.

Thus, if self-realisation means anything more than a vague resolve to be good, it means the cult of character, what Goethe called raising the pyramid of one's existence as high as one possibly can. But this will never work in practice. We have not the space here to detail the reasons why.[1] It must suffice to say that if men really set the perfection of their characters above the performance of their duties, the work of the world would be brought to a standstill and society would dissolve into its elements—which would be suicidal for the self-realisers. If any one thinks the maxim practicable let him try the experiment in his own person and he will find himself sinking into such an abyss of priggery and pedantry that he will be glad to struggle back again, if the importunities or execrations of his friends have allowed him to get very far. But, after all, there is no fear that any one will make the experiment. The real enemy here is philosophic obscurity. No one in this common-sense country would have anything to say to self-realisation if the cloud of hazy formulæ which surrounds it could be swept away. Let it be clearly understood that it means that a man should be always intent on improving and safe-guarding his character, and its speculative popularity is doomed.

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[1] They are given in the *International Journal of Ethics* for April, 1898, in an article called "Self-Realisation as a Working Moral Principle".

§ 17. Eudæmonism is directly against the common ethical experience of men; their moral valuations are evidently made according to a different standard. This may be verified by considering, first, the valuation commonly put upon various moral conceptions; secondly, the valuation put upon various historic characters; thirdly, parallel valuations from other departments of life.

To establish the first of these, little more is needed than to write out a list of those moral conceptions the basis of which is clearly a sentiment of unselfish appreciation and another list of those whose basis is self-regarding, and leave the two, as one may say, to compare themselves. In the former list will be such conceptions as reverence, duty, self-sacrifice, devotion, piety; in the other list self-culture, prudence, self-aggrandisement in all its coarser and finer forms. There is no need to point out which list holds higher rank in common estimation. The place of such conceptions as charity, love, public spirit and patriotism is superficially doubtful; they may be claimed for both lists. Our opponents will point out that the patriot realises his own welfare no less than that of others by his public-spirited exertions. The fact is indisputable but the inference sought to be drawn from it is false. What we must keep in view is the mental attitude of the patriot. Is he thinking about himself or about his country? If the latter, then the results to self are irrelevant to the quality of his action. Doubtless the patriot knows that he is likely to gain by his patriotism, and that knowledge does not diminish his ardour. But if the thought of self-realisation, however refined, is uppermost in his thoughts he ceases to be a patriot.

§ 18. Turn to consider what sort of characters the world ranks highest. Surely they are those who display the unselfish qualities in the highest degree. There is no need to cite the saints and heroes of the past; it is enough to ask the reader to study the people of his acquaintance. In common intercourse how refreshing are the enthusiastic, how lovable are the devoted. On the other hand how intolerably wearying and repellent is the egoist. Pre-occupation with self is not a sin against the Decalogue, but it is the sin of all others which the world has least patience with. Irreproachable morals, great usefulness, high position, learning, genius, even wit are swamped and overwhelmed by this fatal defect. It is easy to be sarcastic about this social fact. "Little people are always affronted by a genius who does not think them interesting". But the world is right and the epigrammatist wrong. Self-centredness may be vice refined of *all* its grossness, but it is vice still.

§ 19. In the other departments of human life, in art or science, we find no less that it is a spirit of self-forgetfulness which wins our highest approval. The artist must not labour at his art that he may cultivate himself, but cultivate himself that he may excel in his art. Here is a phrase from Browning's preface to his *Selected Poems*: "Having hitherto done my utmost in the art to which my life is a devotion". This is the spirit in an artist which the world admires; and it is doubtful whether any other is ever conjoined with a high pitch of artistic production or even acquirement.

So also it is with the man of science. Here is an illustrative quotation: "When one turns to the magnificent edifice of the physical sciences, and sees how it was reared, what thousands of disinterested moral lives of men lie buried in its mere foundations; what patience and postponement, what choking down of preference what submission to the icy laws of outer fact are wrought into its very stones and mortar; how absolutely impersonal it stands in its vast augustness,—then how besotted and contemptible seems every little sentimentalist,"[1] and so on. An edifice of this kind was never reared by men of the self-realising breed.

§ 20. An attack upon eudæmonism is rendered difficult by its long and in many ways glorious history. The appeal to self-observation which must always be the mainstay of its critics seems inadequate against a theory which has held the field so long and has the backing of so many eminent names. Thus in addition to the direct attack a few historical remarks are needed to explain in some degree its prevalence and power.

No doubt it was the first theory to make its appearance because of the practical bent of early speculation. Aristotle states the object of his *Ethics* in blunt language. "Our present inquiry has not, like the rest, a merely speculative aim; we are not inquiring merely in order to know what excellence or virtue is, but in order to become good; for otherwise it would profit us nothing."[1] The practical drift of Plato's *Republic* is no less certain, though scarce so plainly put. They both wanted to find the best life—the best life in the best city by preference, but, failing that, the best life in such cities as ordinary men had to live in. To put it shortly, the question with the early moralists is: How to be happy?

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[1] Wm. James, *Will to Believe*, p. 7.

Now to formulate the question of ethics in an eudæmonistic form is more than half-way towards an eudæmonistic answer. Logically, such an answer is not inevitable. It is possible to ask: What is happiness? or, How can one attain the supreme good? and to state the conditions of attainment without making any concession to eudæmonism. But, as a fact, no writer has ever done this. All who have approached ethics from this side have either failed to give any direct reply to the question: What is virtue? or else have answered it in a more or less eudæmonistic way. It was left for Kant, whose interest in the classics was fortunately small, to strike out a new and better type of answer. But the Kantian influence, though great, has not been decisive. Moral idealism has not altogether fulfilled its early promise. Some of its forms, such as the intuitionism of the last generation, are more likely to repel than to convince the impartial student. And so the Summum Bonum doctrine, backed by the enormous force of its classical prestige, on the whole predominates among us.

§ 21. There is another cause which has operated powerfully in modern days, and is well put by Bentham in the passages where he expresses his dislike of what he calls "ipsedixitism". "The various systems that have been formed concerning the standard of right and wrong, may all be reduced to the principle of sympathy and antipathy. One account may serve for all of them. They consist all of them in so many contrivances for avoiding the obligation of appealing to any external standard, and for prevailing upon the reader to accept of the author's sentiment or opinion as a reason for itself. The phrases different, but the principle the same." "One man says he has a thing made on purpose to tell him what is right and what is wrong; and that it is called a *moral sense;* and then he goes to work at his ease and says, 'Such a thing is right and such a thing is wrong—why? Because my moral sense tells me it is.' Another man comes and alters the phrase, leaving out *moral* and putting in *common* in the room of it," etc. Bentham was a man of rather solitary habits—in practical matters not very closely in touch or sympathy with his fellow-citizens. Notwithstanding this seclusion, or, perhaps, because of it, he was an ardent practical reformer, violently, and on the whole justly, discontented with the legal and political institutions of his native country. And in the task of planning and advocating he brought a keenly logical and sceptical intellect to bear, impatient of everything that looked like unwarranted assumption, and eager to bring everything to the test of objective measurement. A man with this type of mind would have many difficulties about a moral-sense doctrine of ethics. He would question the very existence of a moral sense, insomuch as he could discern no agreement among its various so-called pronouncements. He would point out that it offered no criterion for practical reform, indeed was cited in defence of every abuse by the party of obstruction; so that for these practical purposes resort was necessary to an objective, definitely ascertainable standard, like that of pleasure and pain. These are powerful objections to the moral-sense doctrine. They can only be met by insisting on a fact which Bentham in his seclusion was ill fitted to appreciate, namely, that there is a substantial unity of principle in men's moral judgments enough to justify one form of the doctrine which he rejected.

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[1] *Eth. Nic.*, 2, 2, 1.

§ 22. Thirdly we must take account of a yet subtler influence, one which does not come into play till that stage of philosophical development when the "ideal scepticism," as Reid calls it, appears upon the scene. According to the subjective idealist argument a man is shut up within his circle of impressions and ideas; and, as Hume explains to us, can never get out of it into the objective world save by an assumption more or less illegitimate. Now this is totally irreconcilable with that unselfish appreciation of excellence which I have suggested to be the essence of morality. If we suppose an almost inconceivable case and imagine a subjective idealist who made devotion to his own perfections the guiding principle of his life, that devotion would be something quite different from the moral devotion of ordinary men. Morality is a principle of objectification; to act morally is to declare a belief in one kind of non-subjective existence.

I admit that every variety of the moral-sense theory is not equally irreconcilable with subjective idealism. We can imagine a subjective idealist who believes he has a moral sense which tells him which are better and which are worse among his subjective motives. But then the embarrassing questions arise, Where does this moral sense come from? and Why should the individual listen to it? Thus we see it is perfectly consistent that among thinkers who have a tendency to subjective idealism in metaphysics there should be equally a tendency to eudæmonism in morals. Their argument is plain. Granted that a man is shut up within the circle of his own impressions and ideas, that is no reason why he should not try to make himself as happy as possible. In fact his loneliness is the strongest reason for a purely self-regarding line of conduct. He has no one to consult or consider but himself.

§ 23. One cause of the present popularity of a form of eudæmonism akin to Aristotle is matter of hearty congratulation. The end of the century has been notable in this country for a remarkable and beneficent growth of the civic spirit, a recognition of national and social unity, a keenness to take a share of civic duties and privileges, both in the wider spheres of the Empire and the nation, and in the narrower spheres of the town and neighbourhood. Now this is like the spirit which we find in the great thinkers of Greece—one of the most valuable lessons they have to teach us. The *Republic* and *Ethics* are penetrated with the conviction that the state should be organically one. The eudæmonia which they describe and teach men how to attain is emphatically civic. There being so much kindred between their spirit and that of the best men of our day, it is no wonder that modern moralists have so largely adopted classical forms. After presupposing that morality is the pursuit of a good, they argue that this good is realised by man's performing his function, his ἔργον, which they thereupon identify with his civic duty. In other words man must "realise the social self". The content of this moral system is noble; but it is totally inconsistent with the eudæmonistic presuppositions at its base. It is a well-meaning attempt to pour the new wine of modern civic devotion into the old bottles of Hellenic ethical formulæ.

§ 24. Lastly, though here, to be sure, we have a very subsidiary cause of acceptance, some forms of the Summum Bonum doctrine make a vast claim on the imagination. "Ethics is the science of the ultimate end or ideal of human life"—how impressive such phrases sound to an unpractised ear! They suggest mankind striving, blindly, confusedly it may be, but still striving towards a master-end—a supreme blessedness which gives each separate act its value, and life as a whole its consistent meaning. And the moralist is the sage who comes down and makes that striving clear-sighted, defines the supreme end, and sets it plain before human aspiration. Truly a magnificent function for ethics and a magnificent position for the moral philosopher. He is promoted to be guide of mankind and professor of the science of life.

§ 25. All the more noteworthy is it, as was remarked at the beginning of this paper, that the practical men, the preachers and philanthropists have nothing to say to these mighty claims. You never hear a preacher talk thus of the supreme good or undertake to tell us what it is. His language is pervaded by quite another tone.

§ 26. The fact is that the conceptions which lie at the root of eudæmonism are totally inconsistent with the spirit of the practical morality of the modern world. Between the ethical spirit of pagan and of Christian ages there is a most important and evident difference. Of course the essence of moral practice has always been the same, but the language in which men have spoken about it has been very different in the two ages. There was a much stronger eudæmonistic tone in the old world than in the modern. I am not in the least trying to appeal to theological prejudice when I call such conceptions as Summum Bonum, self-realisation and goodness-as-health-and-beauty pagan conceptions ; and conscience, duty, self-sacrifice and devotion Christian conceptions. I am only trying to make a distinction which cannot conveniently be indicated in any other way. There is no term but "Christian" to express the general spirit of modern morality, the outcome of the centuries of moral experience and experiment which divide us from Hellenic civilisation. Now modern experience has decided that the pagan conceptions, though very important, are secondary to the others. It is the fault of eudæmonism that it reverses their relative position. Among the materialistic eudæmonists this may be explained by an obtuseness to spiritual facts ; among the idealistic eudæmonists by an excessive admiration for the Age of Pericles. In this latter form the Summum Bonum doctrine is a recrudescence of paganism.

VIII.—DISCUSSIONS.

PERCEPTION OF CHANGE AND DURATION—SOME ADDITIONAL NOTES.

THE following short notes, based upon certain considerations put forth by Dr. Stout in the January number of MIND, may, perhaps, be not altogether out of place. Dr. Stout there refers to three classes of experiences—temporal perception, comparison, and the apprehension and recognition of 'form-qualities'. The present paper aims at drawing certain general distinctions; and in so far as it deals mainly with comparison, it somewhat belies its title. Further, no attempt is made to give a scientific account of the mental processes at the bottom of these experiences; nothing is undertaken beyond the preliminary task of ascertaining what is present in consciousness when we apprehend succession, compare, etc. It remains an open question whether the conscious or apparent factors are a true report of the real process. From the purely introspective method pursued there follows a possibly offensive predominance of the first personal pronoun. This seems to be unavoidable, but it must be understood from that very predominance that the value to be attached to distinctions drawn below is purely temporary. The final verdict must rest with those who have the opportunity to observe themselves under the accurate and repeated conditions of experiment. Hence, too, no figures are given; and as the papers containing the figures of various experimenters are so well known, it is unnecessary to give precise references.

1. *Temporal perception.*—(*a*) The view of Duration that Schumann takes the trouble to overthrow can scarcely be considered serious psychology, for it commits the long-branded mistake of substituting a mathematical moment for the empirical or psychical present. (*b*) With regard to succession and change, it seems quite plain that when presentation B follows presentation A at a moderate interval, no memory-image of A *need* be present when we apprehend A to enable us to experience change. It may be present, but its presence is not essential. Nor is it evident that the *a priori* argument to the contrary would have cogency, for the simple perception is not a consciousness of change from A to B, but a mere 'change-consciousness,' as Dr. Stout well terms it.

Such simple change-consciousnesses in all their primitive simplicity are not uncommon, but they are apt to be overlooked because their vagueness renders them useless for the purposes of accurate thinking or practical doing. They are characteristic of our lazy times; but in our times of purpose and pursuit they are not the direct objects of our attention. Either they have acquired a definite meaning in the usual way of acquirement of meaning, so that this change-experience means the change from A to B and that the change from C to D, this the succession of two raps and that the succession of three, and then it is the meaning which has interest for us; or, where the meaning is not clear, we make use of reflective comparison,—of which more must be said presently. Here a word must be added as to the case when B follows A with great rapidity. Mr. Shadworth Hodgson asks in the last number of MIND (p. 242) whether "Dr. Stout's two eminent German authorities have made it impossible to suppose that we can ever in immediate perception hear, say, a postman's double rap, or distinguish it in immediate perception from a single rap". The answer is that, if the postman raps quickly enough, the two knocks would fall within the same psychical moment or present, that is, within one apprehension; and they would be distinguishable from a single knock, not because the first rap is present as a memory when the second is apprehended, but because the total impression differs.

2. *Relations of Intensity or Quality.*—The difficulty of comparing successive presentations A and B seems to depend upon three factors, the actual amount of difference between A and B, our purpose in comparing them, and the time-interval between them. The difference between A and B varies from 'nil' through the just-noticeable upwards; our task may vary from simply judging 'equal' and 'different' to assigning a position to the different, such as 'stronger' or 'weaker,' 'higher' or 'lower,' etc.; and with regard to the time-interval, too rapid a succession flurries us, whilst too slow a succession may make comparison altogether impossible. Granted a suitable rate of succession, the easiest task is, of course, to judge as merely 'different' a more than noticeable difference, the hardest to assign a position to one that is only just noticeable; and between these limits are many grades of ease and difficulty. Now if we leave aside the case where A and B are judged equal or the same, it seems *a priori* probable that the mental processes involved in judging difference will vary with the difficulty of drawing the comparison. Whether this is so only those can finally decide who have subjected themselves to a long course of self-observation under conditions of experiment, and in saying that it does seem to me to be true, I speak with a full knowledge of the weakness of every-day observation in regard to these fine points. However, from such rough tests as I have been able to apply to myself, I incline to think that—at any rate in my own case—the facts are somewhat as follows: (1) When the task

is easy, presentation A need not be present as a perception or memory-image simultaneously[1] with B. This is quite plain in ordinary life; if one is shown first a cabinet photograph and then a life-size painting, the judgment of the latter as 'greater' seems to 'go off of itself' without the presence of a memory-image of the photograph. And on this point most experimenters are agreed. Schumann's verdict has been quoted by Dr. Stout; an equally decisive passage from Wundt may be found in the *Phil. Stud.*, vii., 229, where after opposing Schumann's interpretation of the experiments on the span of consciousness (a difficult point that may be avoided here) he says, 'Eine unmittelbar anschauliche, d.h. nicht durch successive Addition der Theile und discursive Reflexion vermittelte, Vergleichung ist möglich und wird in unzähligen Fällen von uns ausgeführt, wenn von zwei complexen Vorstellungen A und B nur jede für sich als ein simultanes ganzes im Bewusstsein war,' and the condition that A and B should be present at once is 'nicht erforderlich'. The passage refers to complex ideas only, but the principle may be applied throughout. It would perhaps be better to avoid the word Comparison altogether in these cases, except that a term is not easy to find which shall cover not only the cases where we judge 'different' but those where we assign a position. (2) As decision grows more difficult the mental process grows more complex, and finally I at least find a memory-image very necessary. Only it is not always a memory-image of A itself, but of something that does duty for A. This is a possibility which Dr. Stout has not mentioned. It can hardly be doubted that the mind does not always take the high road to its end; very often a by-path is preferred, and that perhaps not always a short cut. For example, in comparing two sound intensities A and B which are near the difference-threshold and do not follow one another so rapidly as to fall within one apprehension, I generally make use of a memory-image, not of the sound A, but of what I can only describe as the total 'shock' or impression produced on me by that sound. This shock is one of those experiences that are more easily verified by the reader in himself than analysed; it is not a simple sensation nor a simple feeling (certainly not a feeling of the pleasure-unpleasure series), but as it is ascribed to the subject only and not at all to the object it should perhaps be called a complex feeling. It may be asked whether this shock is compared with B simply or with the shock occasioned by B. If it suffices to compare the memory-image of this symbol of A with the percept B during the actual perception of B, then I should say that no very strict differentiation of the actual sound-intensity B and the subjective shock takes place; but the comparison is rather with the shock than with B itself. However, such conditions seem to be rarely realised in cases of difficult comparison; rather, we take time to consider the matter before answering. The result is that B itself, if caused by a momentary stimulus, passes away, and then I have no doubt that the memory-image of the symbol of A is compared with the memory-image of the symbol of B. Indeed, I notice a tendency in very hard cases to imitate the shocks by other means, *e.g.*, by movements of the lower jaw, head, or hand, but never any attempt to imitate the sound-intensities by rapping on the table or the like. This is probably due to a very defective auditory memory, but much the same occurs elsewhere. As a rather different example I may cite the case of voluntary movements. In experiments on such movements of the arm carried out on Störring's apparatus,[1] the simplest manner for the blindfolded subject to decide whether one flexion or extension was equal or not to another would seem to be a direct comparison of the series of so-called 'movement-sensations'. As a matter of fact, these were never except in very large movements the *conscious* factors that determined my judgment, nor indeed could I by any amount of effort distinguish these sensations as a rule; but I made use of various complex ideas of direction, distance, position, etc., and the ideas that were most prominent in movements on one part of the apparatus were often least prominent in other parts. This seems to be a case where, to judge from what is actually present in consciousness, a roundabout way is preferred to a short cut. Thus, whilst subscribing to Dr. Stout's theory as a whole, I should like to venture a generalisation from my own case and give the statement a more precise form, as follows: The apprehension of a presentation B as different from a previous presentation A does not necessarily imply the coexistence in consciousness with B of a perceptual or memorial image of A. If B follows A with sufficient rapidity, they fall within one perception and so are present together. Otherwise A is usually not present if the difference is easily apprehended. But when the comparison can only be effected with difficulty—*i.e.*, when there is true comparison—it usually happens either that a memory-image of A itself is compared with the percept B or with a memory-image of B, or that a memory-image of some experience that is recognised as standing as a symbol or formula for A is compared with a similar formula for B or with the memory-image of such a formula.

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[1] It might be argued that A and B cannot be present in consciousness absolutely simultaneously and yet be recognisably two. But this is a confusion of consciousness with the '*Blickpunkt*'. Attention is *fully* fixed only on A or B at once, but so far as may be it remains master of the other at the same time. *Cf.* Stout, *An. Psych.*, vol. ii., p. 165; Wundt, *Logik*, vol. i., p. 58. But it is curious to notice that in some comparisons of spatial figures or forms—*e.g.*, of lines—there seems to be something like superposition. In these cases attention is mainly fixed on the difference.

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[1] The apparatus is described in *Phil. Stud.*, xii., 475. The experiments mentioned were under Dr. Storring's leadership, and as his account of them has not yet appeared, an apology is due for this previous, though very cursory, mention of them.

A word as to those cases where we judge B to be the same as A. These are cases of Recognition, and they are marked by the feeling of Recognition or Familiarity. But this feeling, though it may be prior to the judgment, can scarcely be the conscious condition of it, for it must itself rest upon the same conditions as the judgment. Leaving it aside, then, we find that recognition is ordinarily easy; we also find few to maintain that it implies the comparison of a distinct memory-image *a* of A_1 with the present percept A_2; and so far our general view finds support. But do we in cases of difficult recognition use comparison proper? It might indeed be asked whether recognition with difficulty is possible, whether, *i.e.*, when we have got below the least noticeable difference we do not necessarily judge 'equal' or 'the same' with equal ease. But in simple cases such as sound intensity or tone-pitch, even if we disregard the relation to this matter of the 'undecided' judgments that occur about the difference-threshold, we cannot fail to recognise that the time-interval between A_1 and A_2 influences the result greatly, and I should be inclined to say that as the interval increases beyond the point of easy recognition the tendency grows to make use of a memory-image of A_1. Certainly this is so in the complex cases of ordinary life, where, *e.g.*, we recognise a comparative stranger after some lapse of time. In these cases, of course, the question of what differences are important and unimportant complicates matters; but in general it seems that the more uncertain the recognition is, the greater the tendency to use memory-images.

3. With regard to cases like that of a melody, it seems on the whole better to exclude them from the present discussion. Meinong of course gives his position away in saying that "zum Vorstellen einer Melodie das gleichzeitige Vorstellen sämmtlicher sic ausmachenden Töne unerlässlich erscheint". A theory that demands so much as that is too unconscionably importunate. But it is not without reason that Schumann has objected to the use of these very complex examples, with regard to which very different views might be held, none of which would necessarily injure our previous contentions; *e.g.*, the chief importance may be attached to feelings, and even then subsequent differences of opinion are possible. For one tersely and forcibly put view *cf.* Lipps, *Ztschft. f. Psych.*, etc., xxii., 384.

T. LOVEDAY.

IX.—CRITICAL NOTICES.

Einführung in die Philosophie der Reinen Erfahrung. Von JOSEPH PETZOLDT. Erster Band. *Die Bestimmtheit der Seele.* Leipzig: B. G. Teubner, 1900. Pp. 354.

It is always a matter for congratulation when a new and interesting movement in Philosophy finds an adequate interpreter. The philosophy of Avenarius has found a most admirable interpreter in Mr. Petzoldt. He has succeeded in disengaging what is really vital in that philosophy from all that is merely accessory, and in setting it before his readers in the clearest possible light. Not that we are spared the terminology that makes the masterwork—the *Critique of Pure Experience*—at first sight so forbidding, but we are introduced to it and led through it in the kindest possible way.

It would be a mistake, however, to suppose that the present volume is a mere introduction to the philosophy of Avenarius, or a mere exposition of the principles of the *Critique*. It consists of two parts, the first of which is devoted to developing the main idea which gives unity to the work of Avenarius, and the second to a critical exposition and extension of Avenarius's philosophy as embodied in the *Kritik der Reinen Erfahrung*. Other parts, moreover, are to follow in a second volume, which we are to expect in two or three years' time. They will be concerned primarily with the exposition and application of 'a principle of very great generality and fruitfulness dominating all the processes of nature and spirit'; whilst the last part will be devoted to the statement of the fundamental view of the world which is characteristic of the Philosophy of pure Experience.

It is impossible not to take a genuine interest in such a programme, and the interest with which one starts the reading of this first volume is heightened from the very outset by the lucidity of the writer's style. Mr. Petzoldt is essentially a conscientious thinker, and as he is never slovenly in his ideas he is always clear in his expression.

It was with much regret that I discovered I was at complete variance with the fundamental principle upon which this whole new philosophy is built—the principle which concerns the scientific explanation of psychical processes, and the conditions of their intelligibility; and yet this did not in any way diminish the interest with which I read the remainder of the book. It is a work which cannot induce any feeling of irritation. However radically one may disagree with the position of Mr. Petzoldt, there is no after-vexation due to the feeling that one has been worrying over difficulties that are mere confusions and nothing more. Whether one agrees with the exposition or not, one cannot but feel that one's own convictions are made more clear to one's self by means of it.

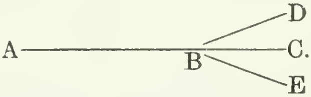
The conviction that psychical processes cannot furnish their own explanation, but can be unequivocally determined only through their dependence on brain processes that *can* be determined, is the soul and inspiration of the new movement, of which the late Dr. Avenarius is the chief exponent. Avenarius, says Mr. Petzoldt (p. 350), was the first to feel deeply the need of bringing the movements of the mind under the firm control of a genuine science. He became convinced that the attempt to understand psychical events by referring them to other more familiar psychical events was futile. It could result at best in the establishment of certain uniformities (*Regelmässigkeiten*) that were constantly being broken, but never in the establishment of laws. The only genuine explanation, the only form of explanation that could make psychical process scientifically thinkable must be such as to show *in detail* the absolute determinateness of the process. So long as the slightest vestige of indeterminateness remained, there could be no science of Psychology. This was the conviction of Avenarius.

A very clear and striking statement of the way in which one is to convince one's self of the truth of this conviction and fall irresistibly into line with Avenarius is given in the first introductory part of the present volume. It consists essentially in the following argument: The only intelligible principle of explanation is that founded on the thoroughgoing unideterminateness (*eindeutige Bestimmung*) of events. Such unideterminateness is not anywhere traceable within the mental sphere. Mental processes must, therefore, either remain permanently inexplicable or be explained through their connexion with material processes, for these alone proceed unideterminately. As all known facts agree in showing that the only material processes in immediate relation with psychical processes are the processes of the brain, it follows irresistibly that if there is to be a science of mind at all, psychical processes must be conceived of as the dependent concomitants of brain processes, and receive their unideterminateness through their connexion with these. This is not materialism or any other "ism," urges Mr. Petzoldt in conclusion. It is a simple fact, for if it be not a fact, then mental science is an illusion.

Such is Mr. Petzoldt's startling but clearly defined attempt to set up the doctrine of psycho-physical parallelism as the fundamental incontrovertible fact of mental science. Let us now examine this attempt more closely. Mr. Petzoldt asks us to focus our attention on some single psychical event and to ask ourselves how we intend understanding it. The ready answer will no doubt be given that it must be understood as the effect of certain causes. If so, proceeds our author, the causes must be of a psychical kind, for the idea of a physical cause bringing about psychical effects has long ago been exploded. On the assumption that we acquiesce in this Mr. Petzoldt proceeds to enlighten us. He attempts to show (1) that the facts upon which the time-worn principle of causation is founded do not justify us in admitting more or less than the unideterminateness of all that happens; (2) that the psychical states being non-unideterminable by each other, the attempt to make them explain one another is scientifically unthinkable; (3) that the only way out of the difficulty is to accept the doctrine of psycho-physical parallelism in the sense of Avenarius.

The causal idea in its old form is, according to Mr. Petzoldt, quite untenable. Taking a concrete example, that of the fall of an avalanche, our author shows how the attempts to define the causal relation more closely, first by distinctions into direct causes and indirect conditions, then by analysis of these into their component factors, are doomed to failure on account of the *continuity* of natural events. It is impossible in short to give a clear, sharply-defined meaning to the terms *cause* and *effect*. Science is therefore bound to forsake these concepts and this it does the more willingly when an inquiry into their origin shows them to be in all their aspects mere relics of animism. Of these aspects that of necessary connexion between cause and effect is the most important and misleading. It is a mere anthropomorphism. The necessary is in fact a bewildering expression for the actual and nothing more.

In consequence of the complete unsatisfactoriness of these causal concepts Mr. Petzoldt starts an inquiry into the nature of the facts upon which they are based. This fact he finds to be simply the following, that every natural event is fully determined in all its parts. It is in giving precision to this fundamental statement that Mr. Petzoldt reaches the central conception of unideterminateness.

He first of all takes a number of examples by way of illustration and shows by means of these that whenever there are a number of possible ways in which, say, the movement of a body would be directed, that part is selected, as a matter of fact, which possesses the following three elements of unideterminateness: (1) singleness of direction, (2) uniqueness, (3) continuity, for in satisfying these three conditions all indeterminateness is taken from its changes. The meaning of the first determining element is simply this that as a matter of fact there is no *actual* ambiguity as to the sense in which any change takes place. Warm bodies left to themselves always grow cooler; heavy bodies left to themselves always fall downwards not upwards. A first conceivable ambiguity is thus put to rest by Nature herself. In the second place Nature takes care that bodies shall move in such a way relatively to their *Bestimmungsmittel* or media of determination that the actual direction of motion differentiates itself from all the others by its uniqueness. It is only this uniqueness that gives to the actual change its right to be actualised, its right to be chosen in preference to any other possible change. Thus a ball moving freely on a horizontal plane passes from AB on to C, 

It might conceivably have passed from B to D, but though this course is a thinkable one it is not realised, because its realisation would involve an ambiguity, for no reason could then be given why the direction *BD* was chosen in preference to the symmetrical direction *BE*. The direction BC is in this case the only one that is unique and therefore unambiguous. The third element, that of continuity, secures the possibility of exact quantitative determination.

The fundamental law of unideterminateness is formally enunciated by Mr. Petzoldt in the following words: 'For every occurrence, means of determination can be discovered whereby the occurrence is unambiguously determined, in this sense, that for every deviation from it, supposed to be brought about through the same means, at least one other could be found which being determined in the same way would be its precise equivalent, and have as it were precisely the same right to be actualised' (p. 39). By 'means of determination' are meant just those means—*e.g.*, masses, velocities, temperatures, distances—by the help of which we are able to grasp an occurrence as singled out by its uniqueness from a number of equally thinkable occurrences.

This unideterminateness of things is both a fact of Nature and the *a priori* logical condition of there being a cosmos at all instead of a chaos. Our thought demands it from Nature, and Nature invariably justifies the demand. It is the one necessary and sufficient condition of explanation. An occurrence is explained when it is shown to be unidetermined. Otherwise, it is not only not explained, but is inexplicable. In this one supreme fact of the unideterminateness of all things the mind finds its rest. It is an ultimate fact (*Thatsache*), and you can no longer ask Why? when you come to ultimate facts. Beyond this pure actuality no further problem lies concealed: thought can only state its presence and accept its meaning. But this does not imply that thought is baffled by an impenetrable fact; it implies only that on reaching its ideal of unideterminateness it finds that the facts do not enable it to pierce any further. It comes to rest in its own interests just where any further movement is impossible by the very nature of things.

Having defined and established the fundamental principle of unideterminateness Mr. Petzoldt proceeds to show (1) that as a matter of fact psychical processes do not determine each other in this way; and (2) that if they did the fact of the unity of consciousness would be inexplicable.

The proof of the first point is much simplified by the fact that the direct determining means of a mental act are to be found only in the *immediately* preceding mental acts (p. 65). Mr. Petzoldt shows that there is no such thing as the determination of psychical states by their immediate antecedents. Indeed all the elements requisite for such determination are lacking. There is no *continuity* in the mental life. For continuity to exist (p. 60) two members of a series must become more like each other the nearer they are to each other within the series, and the successive parts of the series must pass imperceptibly into each other. Now the mental life is just made up of sharp transitions (*ist geradezu aus lauter Plötzlichkeiten zusammengesetzt*), and resembles nothing so much as the changes in a kaleidoscope. This discontinuity is implied in Weber's law. As the stimulus is continuously increased, we become conscious only at discontinuous intervals of differences in sensation. 'It was a complete misconception of this relation,' says Mr. Petzoldt (p. 60), 'when Fechner transferred mathematical symbols and methods devised to interpret the continuous changes of mathematical functions to the interpretation of discontinuous psychical changes.'

Further, mental processes are not bound down to a single direction. Such singleness of direction is found only when a natural process left to itself invariably takes place only in one of two equally thinkable opposite directions. But we can repeat the number-series backwards almost as fluently as we can repeat it forwards. As for *uniqueness* of determination, even in strictly logical thinking as in the attempt to work out a problem of Euclid, or to deduce the conclusion from a syllogism, one idea does not call forth without fail some one idea and no other. There is a certain dependence here no doubt between the successive ideas, but it is not unideterminate. In the associations of fancy and imagination there is still less unideterminateness. Two associated ideas may, as a rule, appear in consciousness together, but it cannot be said that the one determines the presence of the other according to a law.

There is then neither continuity, singleness of direction, nor uniqueness in the sequences of the mental life. This is the direct testimony of the facts themselves. As a very strong indirect witness to the same conclusion we have the fact that the unity of consciousness is incompatible with the notion of this unidetermination of one state of consciousness by another. By unity of consciousness Mr. Petzoldt means the continuous time-identity of the individual consciousness. It consists in the recognition of my previous experiences as *mine*. This recognition implies that any idea can appear in consciousness either simultaneously with any other idea or percept, or immediately before or after it. For an idea or experience can only be said to be *mine* so far as I am able to revive it at any time in immediate juxtaposition with any other idea I happen to have in mind at the moment. Mr. Petzoldt has then reached the following conclusion, that no psychical act can be understood from a consideration of the psychical acts immediately preceding it, and this leads him at once to the main result of all this preliminary inquiry. These psychical acts must be determined *somehow*, and as they cannot be determined by mental determining-means, they must be determined by material determining-means. Psychophysical parallelism of the strictest kind must be accepted as a fact or the science of mind be forsaken as a fiction.

As mental processes can only be scientifically understood in the light of brain processes, it follows logically that we can understand the life of mind only in so far as we have understood the life of the brain. This startling inference is accepted in these very terms by Mr. Petzoldt (p. 90). The Psychologist has two fundamental tasks before him. Firstly, to investigate the life of the brain itself as it exists within its material surroundings, and quite independently of its connexion with the mind; and secondly, to show in detail how the various psychical processes can be scientifically understood through their dependence on the processes of the brain. These tasks were undertaken for the first time by Richard Avenarius. The first problem he solves in the first volume of the *Critique*, and in the second volume he solves the second.

It is at this point no doubt that the reader who is not already familiar with the work of Avenarius will have his interest and curiosity excited in the highest degree. He will naturally expect, first, some brilliant physiological or biological discovery; and then, founded upon this, some equally impressive solution of the relation of Body to Mind—none the less acceptable for being previously unimaginable. But all this is vain expectation. Avenarius did not make physiological discoveries, and he is no nearer than was Spinoza to the solution of the great enigma. Avenarius was a psychologist. His theory of brain-processes is a mere translation into material terms of his theory of mental processes, and alas! to any one who, despite all the arguments of Mr. Petzoldt, still believes that the mind contains its own principles of determination, this whole laborious, ingeniously-elaborated translation is completely superfluous.

To justify this disillusionment, we need not go beyond Mr. Petzoldt's own statements. For on page 93 we read that the two great discoveries in question were made by Avenarius as a result of an unprejudiced investigation not of cortical but of mental processes. The discoveries in fact were of a purely psychological nature, and as such they are both very interesting in themselves and very thoroughly worked out by their discoverer. The first is the discovery that our psychical life at any moment consists in the play of a number of more or less easily distinguishable processes of conscious activity to which he gives the name of Vital Series (*Vitalreihen*), but which we should prefer to call, with Prof. Stout, interest-series. The second is the discovery of a new and simple principle for classifying and interpreting the tangled maze of mental phenomena. Avenarius superseded the familiar distinction of states of consciousness into sensations, cognitions, feelings, volitions by the much simpler and more general division into Elements on the one hand and Characteristics (*Charaktere*) on the other.

These two discoveries taken together, adds Mr. Petzoldt, lead to the discovery of the true biological meaning of the central nervous system (p. 93). How it should do so is, of course, perfectly inconceivable. Wundt's criticism that these translations of psychological fact into the terms of Biology are of no use either to Psychology or to the Physiology of the nervous system, that it is a purely formal schematism that could be applied to Herbart's '*Realen*' just as effectively as to the vital processes of the brain seems to me quite irresistible. It is only on the assumption that mental processes are inexplicable except through the determinative intervention of purely physical processes that the hypothesis of these organic *Vitalreihen* can be in any way justified. It is in every ordinary sense an illegitimate hypothesis. It professes to be a biological hypothesis, and yet it is framed not to fit the facts of Biology, but in the interests of Psychology; it is further, so far as our present knowledge of the brain goes, completely unverifiable. Were it absolutely imperative to find for Psychology some determining ground outside the facts of the mental life, it would be welcome, and very welcome, as a temporary piece of scaffolding, and this is, of course, the consideration that makes Mr. Petzoldt's position intelligible. But we have yet to determine whether Psychology is not more independent than Mr. Petzoldt seems to think. For what after all is the force of our author's long argument in proof of the indeterminateness of psychical activity? Does that which he *has* succeeded in proving really prove his point? I cannot see that it does. It has shown us that one psychical state cannot be said to determine the state that immediately succeeds it in the same way as the position of a moving body at any moment is determined by the position it occupied at the previous instant. This is perfectly true, as his careful argument clearly shows. But this only proves that psychical states as Mr. Petzoldt conceives them cannot determine each other as Mr. Petzoldt would have them do. We should be prepared to contend both that Mr. Petzoldt does not approach the facts of Psychology in such a way as to do justice to them, and that to be scientifically determinable a psychical fact need not be unideterminable in the sense of Mr. Petzoldt. Let us first try and see what the precise psychological attitude of Avenarius and of our author really is.

Mr. Petzoldt holds that the most important psychological discovery of Avenarius was that every psychical event, even the most rudimentary (p. 96), consisted in a psychical series that had a beginning—some disturbance of psychical equilibrium—a middle—a series of movements or means for remedying the disturbance—and an end—the re-establishment of the mental equilibrium (p. 305). Such an event constituted a *vital series*, and the mental life was nothing more nor less than a wondrously complex interbranching system of vital series.

Avenarius explained his meaning fully both by presenting each of the three sections of the series in a vast, almost bewildering, array of psychical lights (pp. 96-98), and also by means of a number of concrete instances. Here is one out of many: "B wants to go out while it is still raining, but cannot find his umbrella in its customary place—series opened. He looks for it in all likely or possible places—middle terms of the series. Finally he finds the umbrella—series closed." The reader does not require to read through all the many instances of this kind given by Mr. Petzoldt to convince himself that Avenarius had here got hold of a very real psychical fact. But no sooner has he got firmly fixed in his mind the conception of the pyschical unit as a series, the members of which are knit together by a single tendency or interest, and is beginning to become enthusiastic over it, than there begins that disappointing process of disillusionment which, according to Mr. Petzoldt, constitutes the crowning merit of Avenarius's work. The first step in this process consists in shifting the centre of importance from the psychical to the parallel biological series (p. 98), until the reader finds that the main result reached is not that the essence of the *psychical* life consists in an incessant stirring to appease an appetite, put away a discomfort, satisfy an interest, or work out some problem or end, in a word, to answer questions, practical or theoretical; but that the essence of the *life of the brain* consists in warding off whatever threatens its state of equilibrium (p. 108).

The full force of this transference is not felt at first. For the next step, and the main step, consists in a prolonged process of psychological analysis, the issues of which are not clearly traceable at first. The object analysed is the vital psychical series, and the immediate aim of the analysis is to discuss the *parts* and *aspects* of such a series—its fundamental forms, in fact—and to classify these in an orderly and comprehensive system. This is of course an excellent procedure, and its accomplishment, in detail, by Avenarius, is a valuable contribution to Psychology.

But if the reader fondly expects, as the natural sequence of this analysis, a synthetic reproduction of the psychical life, he is fond indeed. A skilled analyser like Avenarius can not fall, we are told, into the old blunder of explaining a psychical act or a synthesis of psychical elements as an atomistic Psychology might be expected to do (p. 270). What he does is to renounce psychical synthesis altogether as beyond the reach of Science, and transfer the synthetic, unifying function from the psychical to the biological vital series. The Avenarian Biology is of course not the Biology of the Biologist. It consists simply and solely in the persevering application of one hypothetical principle—that the life of the brain, namely, consists in a perpetual warding off of whatever troubles its equilibrium—not so as to interpret any single biological fact, but only so as to give intelligibility, that is unity, to the psychical life. For that is what this whole twist of method comes to. Had Avenarius believed in the existence of anything that could be called a synthetic Unity of Consciousness, something psychical that could enable us to trace true psychical development in psychical change, we should assuredly have heard less of Biology. But he holds that it is only the unity and continuity of the biological vital series that can render intelligible the discontinuous succession of the psychical vital series, the only imaginable form of *psychical* synthesis being that of the rope of sand.

On such a crucial point as this Mr. Petzoldt does not allow himself to be misunderstood. The only psychical unity he will allow within the psychical life is the unity, not of a psychical process, but of a psychical act. Each psychical act exists as it were in solid singleness, like the indivisible soul of mediæval philosophy. It is a unity without parts. A psychical act, say a perception, cannot be divided into component parts like some material thing (p. 258); in itself it is one and indivisible, it is analysable only by thought, and the parts into which it is thus analysed are mere *Abstrakta* (p. 337), and only exist for thought. As for psychical *process*, a process, that is, showing psychical growth or development, there is no such thing (p. 278). What is characteristic of the psychical is its discreteness and discontinuity (p. 166). The process is a mere mosaic laid in Time (p. 278), and as we must logically add, though Mr. Petzoldt does not make the inference, Unity of Consciousness is a vital or organic fact, not a psychical fact at all.

This whole procedure of Avenarius, as defined by Mr. Petzoldt, finds its explanation in the presupposition from which he starts. Having convinced himself that psychical processes cannot determine each other he is not tempted for a moment to seek for a principle of synthesis within the psychical series which he analyses, but considers the analysis only as the means for discovering the true biological syntheses. It is Hume over again, but with this difference, that whereas Hume abides by his first error and accepts all its consequences, Avenarius seeks to remedy the first error by a second. Their common error, as I take it, is in starting with what is in essence an atomistic conception of the psychical life, the error peculiar to Avenarius is that of seeking to superinduce upon the discontinuous atoms of this psychical life a synthetic principle of unity, hypothetically borrowed from elsewhere.

The only way to avoid Hume's sceptical conclusions and the thoroughgoing materialism of Avenarius—veiled, but only veiled, by his protest against all 'isms' whatsoever—is to start with a truer and more living conception of the facts of the psychical life. The ultimate psychical fact, however one interprets it, is the Unity that marks one's interests and endeavours, and not the fragmentary part or phase of such an interest or endeavour. The psychical unit, I am bold to say, is, in last resort, the psychical organism. For a 'psychical process' is merely an abstract expression for a modification of the activity of the self. No Psychology can be the psychology of mental processes in the abstract, but only the psychology of the mental processes of the individual.

Such an obvious fact is not likely to be overlooked, and Mr. Petzoldt certainly does not overlook it (p. 76). He holds the Unity of Consciousness, by which he means the continuous time-identity of the 'me' to be a fundamental or original fact (*Eine ursprüngliche Thatsache*). Now this confession should logically have led to conclusions very different from those to which Mr. Petzoldt leads us. For our author tells us (p. 44) that one cannot ask the 'why' of an ultimate fact: it must be accepted as pure actuality and nothing else (*Für letzte Thatsachen giebt es kein Warum*). Now since we cannot see any essential difference between an ultimate and an original fact, we should expect Mr. Petzoldt not to question this fundamental fact of the Unity of Consciousness, but simply to set about discovering how the Unity is to be conceived in order to prove fruitful in the explanation of mental development. But instead of this we are started on a shadowy chase after metafundamentals. We are told that the very *possibility* of this Unity requires the non-unideterminateness of psychical states, that this non-unideterminateness is its logical *a priori*.

If this is to mean anything at all, it can only mean that the Unity of Consciousness must be conceived as *actually* possessing this peculiar property, namely, that its mode of unifying mental processes is not through the agency of physical unidetermination. In this I would perfectly agree with Mr. Petzoldt. Unidetermination of this physical kind is to my mind perfectly incompatible with any form of self-determination, where by self-determination I mean the power of choice and of control, the power to select and to reject, in a word, the power to be guided by one's ends and interests instead of being pushed from behind by some inevitable actuality. But the unidetermination of one psychical state by another is one thing, the unidetermination of psychical process by some interest or final cause with which the self has for the moment identified itself is quite another. It is in this latter sense only that the Unity of Consciousness can be said to provide a principle of determination for the otherwise disconnected facts of the conscious life. That there are great difficulties in the way of any attempt to show how Unity of Interest or Endeavour can furnish a synthetic principle of determination for the psychical process whereby that interest develops or that endeavour realises itself is undeniable. But just in so far as we can detect unity and continuity in the mental life—as we can do in all attentive processes provided we do not use these fundamental ideas too abstractly—to that extent we have in hand a principle that can really *explain* mental development, explain, that is, how the development takes place, what determines it in one direction rather than in another, why mental change is a growth and not a flux. To discuss this fundamental point would lead us too far. We need only refer to Prof. Stout's truly psychological chapters on mental process and on association in his lately-published *Manual of Psychology*.

Admirers of Prof. Stout's work will probably find on reading Mr. Petzoldt's volume that the two central points on which they will fundamentally disagree with the latter are :—

(1) Its abstract conception of the data of psychology, which is such as to make a reconstruction of the psychical life out of its own analysed material quite impossible.

(2) Its adoption of the hypothetical biological vital series as a working principle of psychological synthesis in the place of the clearly conceived but woefully neglected non-hypothetical psychical vital series. This latter as Prof. Stout's own treatment clearly shows, provides an admirable working principle for the explanation of mental development, and does not commit the student to any ultimate views as to the Unity of Consciousness.

The first indictment may seem to be unjust. Avenarius doesn't spin webs out of his own brain—except in Biology. His work bristles and reeks with facts. He is also very careful not to treat the individual as though he had no environment to reckon with. He is abstract only in this that he insists on having all his materials pure. But pure experience turns out to be experience purified of its vitality, the facts of consciousness, for instance, abstracted from the interest or endeavour that just makes them the facts of an individual self. The purified psychical processes are left like fishes in filtered water, or what is still worse, like fishes on dry land, finding their support outside their natural element. But what Science surely requires is simply experience purified of its confusions. Now when we are dealing with something that is the product of growth this demand for a pure experience does not simply mean the demand for a thoroughgoing analysis. The analysis must be throughout the differentiation of a principle, must, in fact, not only take the genetic form, but must be the analysis of a Self or an interest or of something that has in it the capacity to develop. It is of course quite possible to work out a purely analytic psychology on genetic lines. And this is indeed what Avenarius usually does, as witness his excellent analysis of conation. But the result of such an analysis is not experience but its *disjecta membra*, arranged in stages, if you will. We are treated to an ideal dissection and have in hand all the materials for an excellent classification, but that is all.

Avenarius's fundamental grouping of the facts of mind under the two heads of 'Elements' and 'Characteristics' is intended to answer the purposes of such a classification. It affords a clearly analysed and comprehensive descriptive arrangement of the facts. By 'elements' are meant mere sensations, feelings as such, sensations and feelings, that is, in abstraction from the meaning with which they have been invested. This meaning is, in a word, the characteristic. The element is what is characterised as having a meaning. And it is further important to note (p. 337 and pp. 256-258) that the meaning may belong to the object as that which makes it intelligible to the subject, or to the subject as that which gives a certain colouring or subjective tone to the attitude which the subject adopts towards its object. The term 'characteristic' thus includes the two ideas of 'meaning' and 'attitude-tone,' the one relatively objective and the other relatively subjective; and its essential advantage for purposes of classification lies just in this generality. But, unfortunately, it loses in explanatory power what it gains in generality. Those who are familiar with the use made by Prof. Stout of the two ideas of 'meaning' and of 'attitude' in explaining the process of mental development will see at a glance where the difference lies between Prof. Stout's procedure and that of Avenarius. In the case of Prof. Stout there is a formative psychical principle behind all acquisition of meaning or variety in mental attitude—the unity of conscious striving, oneness of Interest or Attention. We are able to trace the differentiations of interest or attention into the meanings that objects acquire for it and the attitude it assumes.[1]

This comparison between the two modes of treatment, between that adopted by Prof Stout and that of Avenarius, may be carried a step farther. For to the fundamental division of psychical facts into elements and characteristics we must add another. Elements as well as characteristics may appear to us either as presentations or as representations, in the form, as Avenarius puts it, either of 'Things' or of 'Thoughts'. This distinction appears in Prof. Stout's *Manual* as that between perceptual and ideational consciousness, and is worked out in the most concrete way in the closest relationship to mental development. Here again we have an analysis taking the form of the differentiating of a principle in contradistinction with the Avenarian distinctions and analyses which are abstract, descriptive, classificatory.

In conclusion we must note that the Philosophy of Pure Experience as represented by Mr. Petzoldt, though agreeing in all essentials with that of Avenarius and equally exposed to all the main objections levelled against his master's system and method, is not by any means to be identified with the Philosophy of Pure Experience as it appears in the *Kritik der reinen Erfahrung.* The present volume is really an introduction to the philosophy of Mr. Petzoldt through the medium of a critical exposition and extension of the views of Avenarius. The criticism mainly takes the form of a very thorough revision of the system of characteristics (*cf.* p. 307 with p. 116), and the extension consists mainly in a treatment of the ethical and æsthetical characteristics which lay outside the plan of Avenarius, whose *Critique* is essentially a Theory of Knowledge. We have now to look forward to the more independent labours of Mr. Petzoldt. The second volume of this introduction, which we are to expect in two or three years' time, is, so far as the author can say at present, to be devoted mainly to the investigation of the following central principle of mental development: 'Human Evolution bears its end within itself' (pp. 318, 319). Whether it will in any way appease the critics of the first volume is probably more than doubtful, but it is certain to be highly suggestive, methodical and clear; for it will be the work of a most able and conscientious thinker.

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[1] For general information as to the meaning of the characteristics and their relation to the elements and their combinations, see especially pp. 139, 253, 262, 266, 308, 337; also pp. 163, 165.

W. R. BOYCE GIBSON.

A Modern History of Philosophy. By Dr. H. HÖFFDING. Translated by Miss B. E. MEYER. London: Macmillan & Co. New York: The Macmillan Company. Two vols., pp. 532; 600.

IT has been said that philosophical poems often suffer the fate of Tithonus; for the philosophy drags out an interminable old age by the side of the poetry which remains eternally young. And from a converse point of view it has been thought that histories of philosophy offer a similar spectacle; since the actual attempts and systems of which they treat have a lasting value, while the methods of interpretation and setting vary with the fashion of the day.

Such a view, however, is not likely to find many supporters. The average reader of philosophy knows very well how much he owes to the historians of thought, and can rightly estimate the comprehensiveness of view, the quick eye for inconspicuous germs of theory, and the sympathetic understanding of historical setting, which they have brought to the task.

All these qualities are admirably illustrated in the excellent work of Prof. Höffding. His wide reading enables him to give a very complete account of the great movements in Modern Philosophy. His special scientific interest does full justice to psychological inquiries, even where these appear in rudimentary shape. And there are many suggestions to be gained from his attempts to show in each case the connexion between a philosopher's character or circumstances and his philosophy, and between a general bent of thought and its individual manifestations. To all these merits we must add Prof. Höffding's large conception of philosophy, a breadth of view which gives a just place in the history of thought to such men as Copernicus, Galileo, Newton and Darwin.

To pass to particulars, first should be mentioned the interesting description of the Renaissance Philosophers, especially of Giordano Bruno. But the main purpose of the first volume is concerned with what are here called "the great systems," *i.e.*, the systems of Descartes, Hobbes, Spinoza and Leibniz. Amongst these especially to be praised is the capital account of Hobbes. Indeed throughout the book full justice is generally done to English Philosophy, especially to the English tendency, often noted, to recognise the actual conditions of life and the problem of competition—a tendency which Prof. Höffding sees well illustrated in Hobbes' 'war of all against all,' Mandeville's *Fable of the Bees*, Malthus' work on population, and above all in Darwin's great discoveries. There is, however, a case in which an English writer does not get his due. Prof. Höffding, misled perhaps by biographical considerations and attention to 'motivation,' displays a very hostile attitude to Bacon, and openly rebukes our "adulation" of his genius. Bacon "possessed, it is true, a certain prophetic insight, and gave inspired utterance to thoughts," but his originality and importance are warmly disputed; and it seems that Bacon's brilliant and pregnant sayings, and his bequests both to the conceptions and language of science, *omnia* (as regards Prof. Höffding) *perfluxere atque ingrata interiere.*

To return to 'the great systems,' the account of Spinoza contains many admirable points. Indeed this appreciation is one of the best things in Prof. Höffding's work. It may, however, be questioned (though these are minor points) whether the antithesis between 'epistemological' and 'psychophysical' can fairly be applied to criticise Spinoza's monism, and also whether Prof. Höffding's view of the *scientia intuitiva* is not, to say the least, rather one-sided. In the very good criticism (which here follows) of the Leibnizian system, it is much to be regretted that Prof. Höffding has not shown more in detail Leibniz's undoubted though unacknowledged debt to Spinoza. It is not possible to discuss here Prof. Höffding's remarks on Locke, Berkeley and Hume, although the account of the last is particularly excellent.

The great feature of the second volume is Prof. Höffding's view of the Kantian system. And here we find numberless interesting points, among which may be mentioned a clever exposition of what is meant by the 'Leibnizianism' of Kant. In spite, however, of all its brilliance, Prof. Höffding's account of Kant shows two great weaknesses. The first of these is the excessive preponderance given to the negative result of Kant's doctrine; and it is here that Prof. Höffding labours most heavily under the 'law of relativity,' a law which has, we must hope, less tiresome and truistic associations and meanings for Prof. Höffding than it has for us. The burden of this dreadful law no doubt it was which led to the rather hampered statement of what Kant actually understood by his transcendental proof. An analogous point of view with regard to ethics has also obscured Prof. Höffding's exposition of the way in which Kant conceived the relation of Freedom to the Moral Law. The second weakness of the author's work here is his short way with the logical problem. Prof. Höffding is not far from declaring that everything which is essential in the table of Categories can be simplified to two isolated forms, *viz.*, cause and quantity; and with these the whole of the immediate constructive logical process, which takes place in the simplest acts of (human) sensuous cognition, is to be performed. While quoting Schopenhauer's criticism of the Kantian Categories, Prof. Höffding does not draw attention to Schopenhauer's own difficulty as regards the union of thought and sensation: 'thought' is expressly ousted from 'perception,' and yet 'perception' can only be carried on, we are told, by the aid of 'understanding'.

The transition from Fichte's earlier position to his later view is not very fully described. And the whole account of Hegel, but especially of the Logic, is vitiated by that off-hand dismissal of the logical problem which has just been mentioned. The account of Schopenhauer, though very good, contains nothing very distinctive. In the whole description of this great period the most interesting thing is Prof. Höffding's attempt to show that during the full tide of the Romantic Philosophy there was, here and there making itself felt, an undercurrent of criticism.

It is impossible to go in detail through the many points which the rest of the book offers for discussion. To sum up, it may be said that in spite of some doubtful things, and perhaps one or two mistakes, Prof. Höffding's work is throughout full of interest and suggestion. It has the great merit of being an entertaining and most readable book. And, if used with caution, it will undoubtedly be found of great assistance to beginners in the study of Philosophy.

The translation seems on the whole conscientiously done. So many English readers of Philosophy are debarred from making direct use of German books, that we must always feel grateful to those who will undertake the labour of translation. This makes it a particularly thankless task to note any slips that there may be in performance. As regards the present work, however, exception must be taken to the use of such compounds as "Aristotelio-Mediæval" (i., p. 78), "Naturo-philosophical" (i., p. 70), and, worst of all, "religio-philosophical" (ii., p. 20), "religio-naturalistic" (ii., p. 26), "religio-historical" (ii., p. 173) and "religio-psychological" (i., p. 78). A certain want of idiom is occasionally observable, *e.g.*, in the use of "his fatherland" and in the use of "inwardness" ("his letters bear witness to religious inwardness," and of Shakespeare, "his rich emotional inwardness"), and in such phrases as "the so-called encasement theory" and "the a priorism as well as the phenomenalism". The rendering of *Hagestolz* as "hardened Benedict" seems a doubly unhappy attempt to take an idiom by storm. Here and there the meaning of the German seems to have been missed; *e.g.*, in i., page 308, we find an argument running thus: "its existence" (*i.e.*, the existence of the one substance) "is necessary, because there is nothing it can exclude" (*weil es nichts gebe was sie auszuschliessen vermöchte*). The English renderings, again, have not always been chosen so as to harmonise with the Latin quotations which follow naturally in the German context; *e.g.*, i., page 109, "but that they are unseemly (*honestum*)," etc., where the German runs "*es sei aber doch nicht schicklich* (*honestum*)"; and i., page 310, "we must (*debemus*)" followed by "we must (*debet*)," where we find in the German ". . . *müssen wir* (*debemus*) . . . *muss* (*debet*), *die ganze Ordnung*," etc. These are, however, comparatively small points, and it would be a churlish spirit which did not recognise the service done to English Philosophy by the translation of such a book as this.

The book seems fairly well got up, but is rather disfigured throughout by misprints; *e.g.*, "memotechnical," "*citus emergit veritas*" (this is also found in the German edition), "*ad inventionum principiorum*," "*per consensionum*," "*fractum subauditum*" "*fractum expressum*" (for *pactum*), "*atheismus crassimus*," "*intima modus nondum patent*," "Guelinx," "*resp. ed. sec. obj.*" (also in German edition), "÷ (÷ 2) = 2," and numberless others. They are, luckily, not such as to cause any difficulty.

J. A. J. DREWITT.

X.—NEW BOOKS.

The Scientific Basis of Morality. By G. Gore, LL.D., F.R.S. London: Swan Sonnenschein & Co.

There is no need to approach this volume with prejudice: it stands self-condemned, a typical illustration of the manner in which science, through no fault of its own, earns discredit before the bar of philosophy. It proclaims itself, in language that would be presumptuous even were it justified by the sequel, an attempt to consider 'questions very complex and profound,' including some 'which have been considered insoluble,' 'a work largely for the future,' 'in some respects in advance of its time'. Then follow five hundred pages of ill-connected scientific fact entirely foreign to the subject of morality, with a concluding eighty pages whose relevance seems their only title to toleration. For a man of science to write with such elementary disregard of scientific proportion that nearly five-sixths of the work are extraneous matter, to write on moral theory with an almost entire and deliberate ignorance of the labours of preceding moralists, to raise scarcely any of the great moral problems, and to attempt a solution of none—these things are unpardonable, and in a voluminous work they evoke anger even more than bewilderment.

To criticise the book on general grounds would be superfluous and unmerited, it will suffice to point out some of its absurdities in exposition. World-theorists generally begin with definitions: here are two: '*Facts* are truths,' '*truth* is perfect consistency with facts'. Again, as to the limits of science,—'Science, like everything else, is limited by the possible, by agreement with the operations of energy, with law, and by consistency with all truth; by time, space, and all other natural conditions'; while on the very next page 'The limits of science are virtually boundless'. Such sentences set us academically wondering whether the author does the greater violence to consistency of thought or to the conventions of language. And yet again with infinite audacity, after approving the ordinary distinction between science and art, how that a science teaches us to know, an art to do,—'Science,' says Dr. Gore, 'is the art of correct thinking'. A belief in the non-existence of essential evil and injustice leads to contradictions which there is little effort to conceal, much less to acknowledge or explain. At one time 'complete justice and compensation are ultimately accorded to all living things,' at another 'causation is stronger than justice,' 'mankind is governed by ruthless and irresistible laws rather than by what we call justice'. Or listen to a triumphant refutation of Kant: 'Kant stated that Space and Time were forms of the mind itself; but we know that the relations of time and space to material bodies must remain when all living creatures are dead and all mental action has ceased': clearly so far from overthrowing Kant's position, his adversary has not even been able to understand it. To his qualities as a controversialist the author sometimes adds a delightful freshness of repartee. In reference to a statement of Dr. Temple that 'I am not constrained to believe that if one event is followed by another a great many times it will be so followed always,' Dr. Gore remarks '(1) that many theological persons do not feel constrained to believe any scientific ideas which appear to contradict their fixed doctrinal beliefs; (2) it requires much more scientific experience than such persons usually have had to become fully convinced of the universality of natural causation'. The argument is neither enlightened nor profound, but its tone at least is ingenuous and its complacency amusing. Nor indeed are the *obiter dicta* of this work less noteworthy than its sustained apodeictic. What is to be said of a man who tells us that 'two of a trade rarely agree, *because* their special ideas respecting their calling are often inconsistent with each other,' and that 'the influence of Mahomet, Jesus Christ, Shakespeare, and Newton are felt *even now*'?

We cannot but conclude that Dr. Gore's book had much better been left unwritten. After making all allowances for its scientific standpoint, the foolish rancour against Christianity, the arrogant materialism, the cold passion for temporalities, there is yet much that cannot be condoned. The book has unhappily an individuality of its own. We are struck by the exercise of a brilliant ingenuity in adapting the verses of Pope and Longfellow to any context, and by a wearying reiteration of catch-phrases, 'immutable energy,' 'unprovable dogmas,' etc., which constitute the author's single line of defence. The only morality in the book is a scant elaboration of one or two common maxims, finally embodied in ten of the most comprehensive platitudes ever submitted to the moral palate. 'To do the greatest good' (2nd rule), 'to continually improve' (5th rule), 'to properly value all things' (9th rule)—this sort of stuff is the reader's only reward for nearly six hundred pages. Dr. Gore has intimated that this is 'a work for the future': we may at least agree with him that it is a startling anachronism.

E. A. MENNEER.

The Conscience of the King. By JAMES CARMICHAEL SPENCE. London: Swan Sonnenschein, 1899. Pp. 280.

The title of this book is not an obvious key to its contents, and yet after finishing Mr. Spence's pages one is obliged to admit that the name he has selected for them is in many ways appropriate. Mr. Spence tells us that some years ago he was engaged on a scheme initiated by Mr. Herbert Spencer, the object of which was "to present briefly in a tabulated form the contents of our statute book from early days onward, showing why each law was enacted, the effects produced, the duration, and if repealed the reason of the repeal". This scheme after much preliminary work had been done was ultimately abandoned. Mr. Spence's share in it consisted in reading and making digests of the oldest of our statutes. This work opened Mr. Spence's eyes to the crimes and follies of legislators. One of the first things he found out in examining these old statutes was that many of the schemes which are now current for bettering the condition of the people by Act of Parliament had been tried in the past and found to fail. This led him to ask, Why did these laws fail? It was not because men were worse in the past than they are now. It is because the good intentions which are a safe guide in private life are not merely useless but positively mischievous in politics. Legislation has in the main been based on good intentions and unproved theories. It has not been based on facts, observation and experience. Hence it arises that when the law comes to be administered, when it is confronted with the actual facts of the problem which it is supposed to solve, it breaks down because it has not taken account of these facts. From the fact that laws have been so unsuccessful in the past Mr. Spence arrives at the conclusion that there should be little or no law-making at all. But surely this does not inevitably follow. What follows is that the business of law-making is an exceedingly complex matter: that the good intentions of the legislator are not a security for the goodness of the law which he enacts: that laws, if they are to be of service to the community, must be resting on a wide and solid basis of fact and experience. Mr. Spence's strictures on the laws of the past and of many of the laws now in operation may be perfectly just in the main. But it does not follow from these strictures that society requires hardly any laws at all. All that Mr. Spence proves is the necessity for proceeding to legislate with the utmost circumspection: the necessity for mastering all the facts of the case: the need of checking all preconceived theories and opinions and of collecting and being guided solely by the facts and arguments which bear upon the legislative problem to be solved. The fault of Mr. Spence's book is that he assumes the equality of all citizens in the community. But this is notoriously not the case. It is true no doubt in theory that they are all equal before the law. But in many instances equality before the law does not amount to much when there is an absence in economic equality between man and man. The individual in a position of extreme economic dependence occupies a very different status before the law in many important particulars from the individual in a position of economic affluence. In order to secure justice to all—and justice is Mr. Spence's political ideal—the state is obliged to protect its weaker and more dependent members. The duty of protecting the weak—the economically and physically weak—is a duty which involves legislation. At the same time it must be admitted with Mr. Spence that such legislation often misses its mark. It does not take sufficient account of the complexity of the problems before it. The value of Mr. Spence's book is to show how very difficult it is to legislate; how easy it is to make matters worse instead of better; how circumspect all law-makers ought to be; how important it is that all law should be the matured result of an exhaustive knowledge of the facts. *The Conscience of the King* is a book which shows how difficult it is to legislate with wisdom and success.

The Social Philosophy of Rodbertus. By E. C. K. GONNER, Professor of Economic Science at the University College, Liverpool. London: Macmillan & Co., 1899. Pp. 209.

In the present volume the author attempts to combine the social and economic teaching of Rodbertus into a systematic whole. Like most modern socialists Rodbertus has his own philosophy of history. He divides the social history of mankind into three periods, which are described by Mr. Gonner as "the family or tribal period, the state or national period, and lastly, far in the future, the period of organised humanity". We have passed through the first of these periods in all the more civilised parts of the world: in the West we are far advanced in the second. The third is still in the far-off future. One of the chief features of the first or family period is "a sense of union and the recognition of the utility of co-operation and mutual assistance" among the members of the family group. The second or state period is subdivided by Rodbertus into three epochs: Heathen antiquity, the Christian Teutonic State, and the State of the Future. Rodbertus selects the city state of Rome as a typical example of the state in Heathen antiquity. This city state was based upon the household. So prominent was the household that the details of its constitution largely determined the nature of the state on its social side. The system of autocracy which pervaded Rome rested on the autocracy of the household, and the demands made by the state on the individual were the counterpart of the demands made on the family by the father of the household. In time the household degenerated into a trading unit, and dragged down the ancient city state to a common doom. The ancient State was succeeded by the Christian Teutonic State. In this new order the autocracy of the household is superseded by the autocracy of the locality. The local group takes the place of the family group and the lash of the slave driver is replaced by the subsistence wage. But the mediæval Christian State in its turn is disintegrated and dissolved by the advent of Invention and Capital. Capital and invention break through the local regulations which lay at the basis of the mediæval state and the modern state comes into existence. Capitalism and competitive individualism are the dominant factors in the modern state, and their concomitants are pauperism, commercial crises and bankruptcy. According to Rodbertus the present competitive capitalistic order of society will be succeeded by a period of equilibrium. This period will arrive when the will becomes dominated by social rather than individual ends. The structure of society at this stage will be the assumption of the direction of national industry by the state. Private property will continue to exist, but it will be restricted to property in income, and in things to be enjoyed and consumed. But the final formation of society will not be national but cosmopolitan. The common bond of humanity will supersede the narrower ties of nationality in the ideal society of the far-off future. We are sorry that we cannot follow Mr. Gonner's exposition of Rodbertus any farther. Passing from the origin and development of society Mr. Gonner proceeds to give us an account of Rodbertus's views as to the nature and principles of society, the character of the modern state, and the state as an industrial organism. At several points we can see that Rodbertus was considerably indebted to English writers such as Ricardo, William Thompson and Robert Owen. But after making deductions on this account he still remains a conspicuous figure in the domain of thought. It is certain that Marx owed much to him. Mr. Gonner has rendered valuable service to English students in presenting all that is best and most characteristic of Rodbertus before us in such a lucid and careful manner. Mr. Gonner's task was one of no small difficulty. He has bestowed abundant labour and patience upon it, and it is to be hoped that his book will meet with a wide circle of readers.

The Six Systems of Indian Philosophy. By the Right Hon. F. MAX MÜLLER, K.M. London: Longmans, Green & Co., 1899. Pp. 618.

We all know the charm of Prof. Max Müller's writing. He brings it to bear here on a subject which tests it to the full. It is of interest to compare the changes in Indian thought with those in European thought. But the working of the Indian intellect is couched in words so strange to us, seems often so bizarre and childish, takes for granted so much we are not prepared to grant, that the study of it is beset with difficulty. It is clearness, therefore, and many another quality of sound methodology, which is required rather than grace and charm.

After a charmingly-written if somewhat desultory introduction, the author sets out the philosophical views which were adumbrated in the Vedic hymns and the Upanishads before the time when any philosophy in India had been built up into a system. In doing so he constantly quotes, or refers to, writings which belong to a very much later stage than the one under exposition. This is confusing, and the result may instructively be compared with the treatment in the first volume of Prof. P. Deussen's *Allgemeine Geschichte der Philosophie*, where the same part of the subject is dealt with according to clearer, more historical methods. The author has possibly himself failed to grasp the essential fact and features of historical growth in the ideas he is handling. Or is it mere ambiguity which prompts him to say (p. 239) that the system of the Vedânta was slowly elaborated "thousands of years ago"? It is much the same with the subsequent chapters which treat, in succession, of those six systems which were subsequently built up by the scholastic writers of mediæval India, and which, while they do not exhaust the wealth of Indian Philosophy, constituted during an epoch the orthodox curriculum. Authorities differing in time by centuries are quoted side by side without sufficiently clear distinction being drawn between them. It is apparently much more difficult to assign dates to Indian writers than to those of Europe. But it is certain from what the author himself states, that a distinction between earlier and later thought is possible. We find much sympathy, theoretically, for historical treatment, but practically no attempt at it is made. In spite of the abundant material set out in this volume, it conveys the impression of having been done hastily, and of being rather a furbishing up of a book of notes written long ago than a really careful study of exposition and criticism such as the times are ripe for. The work is compiled for students of philosophy in general, and, to adapt and strengthen the author's over-modest assertion, the time is now come when no one ought to claim that name who is not acquainted with the leading features in the history of Indian philosophy. Our insular dilatoriness has suffered a task to be attempted by a veteran publicist which should be occupying the thought of our leading philosophers. The result, even if it can scarcely add to the former's great reputation, at least in its intention does him honour.

Letter-, Word-, and Mind-Blindness. By JAMES HINSHELWOOD, M.A., M.D., F.F.P.S. Glasgow, Surgeon to the Glasgow Eye Infirmary. London: H. K. Lewis, 1900. Pp. 88.

Mainly a reprint from the *Lancet* of papers read before the Glasgow Medico-Chirurgical Society. Six new and valuable cases are recorded, four from the author's own observations (complete letter- and word-blindness, place-blindness, partial mind-blindness with dyslexia, and word- without letter-blindness), one from notes by Dr. J. Love on a case of Dr. Finlayson's, and one from notes by Dr. J. Carslaw on a case of Sir W. T. Grainger's (both letter- without word-blindness). The last two cases are especially interesting, and the author believes that the type is not rare though generally overlooked. The reported cases are throughout compared with similar accounts by other writers, and the general exposition is clear and straightforward. But the book suffers from faults common to all reprints of lectures. On the one hand there is too much repetition, and on the other there is a lack of the comprehensiveness claimed at the outset of the work. Thus the psychology of the preliminary chapter is so terse as to be misleading (as in the statement that 'when we recognise a friend in the street, we do so by comparing the present retinal impression with the visual memory of him, which exists preserved in a special area of the brain'); an extreme view is taken about 'partial memories' without reference to such objections as are raised by Pitres; no mention is made of Bastian's arguments against the 'unilateral' view of writers like Déjerine, and so on. But with a certain amount of modification and with some additions made to it, this would be a very useful book.

T. L.

Ethics and Religion: A Collection of Essays by Sir John Seeley, Dr. Felix Adler, Mr. W. M. Salter, Prof. H. Sidgwick, Prof. G. von Gizycki, Dr. B. Bosanquet, Mr. Leslie Stephen, Dr. Stanton Coit and Prof. J. H. Muirhead. Edited by the Society of Ethical Propagandists. London: Sonnenschein, 1900. Pp. ix., 324.

This is a volume of addresses delivered for the most part ten years ago when the ethical culture movement was new to this country, and they serve to show what the scope of the movement was in the view of its leaders at that time. The addresses are all, it is needless to say, full of enthusiasm for human good, and some of them contain valuable philosophical ideas. Their faults are probably due to the fact that they are pioneer work; they are too polemical and too vague. Mr. Leslie Stephen is the worst offender in the former respect. He gives us pungent criticism where we should prefer construction. The reproach of vagueness will be removed, let us hope, in a later series. At present we are strongly exhorted to be virtuous, but do not get much instruction in the art of virtue. No propaganda, ethical or otherwise, is much helped by generalities.

Crime and Criminals. By J. SANDERSON CHRISTISON. London: Williams & Norgate, 1899. Pp. 177.

This is a small work on Criminal Anthropology by an American doctor. It is in the main a reprint of a series of articles written by the author a few years ago to an American newspaper. These articles generally deal with some notorious criminal whose case was arresting public attention at the moment. Dr. Christison's method is to examine the physical and mental characteristics of the individual criminal, and to look upon the crime as the result of these characteristics. Some of these characteristics are inherited and some are acquired and punishment as at present practised so far from repressing or eliminating these characteristics as a rule intensifies them. The book contains no new ideas but it contains what is often more useful a fresh collection of facts. All these facts go to show that the problem of crime is only a branch of the social problem in its entirety and that the way to diminish crime is by improving the general conditions of the social organism. Dr. Christison's book will be useful as a means of popularising a more reasonable conception of crime and the character of the criminal population.

The Morals of Suicide. By Rev. J. GURNHILL. London: Longmans, Green & Co. London, 1900. Pp. x., 227.

The author approaches his subject "from the standpoint of a Christian Socialist," and discusses it in its "moral and religious aspect," declaring that its social aspect is "of course dependent" on the former. His book requires no comment from a philosophic point of view, save that even from his own the wrongness of suicide is not proved, but only assumed, by calling it 'self-murder'.

Histoire de la Philosophie Médiévale, précédée d'un Aperçu sur la Philosophie Ancienne. Par M. DE WULF, Professeur á l'Universitié de Louvain. Louvain: Institut. Supérieur de Philosophie, 1900. Pp. 480.

It is impossible to form a favourable estimate of this history of mediæval philosophy, written by a professor in the Roman Catholic University of Louvain. To deal adequately with it indeed, as the industry and reading apparent throughout its pages deserve, would require a reviewer whose knowledge of the details of the subject was comparable to the author's own; and to such knowledge I can make no pretension. It is true that (as I shall presently show) the inaccuracy of some of M. de Wulf's historical statements is such as to shake one's confidence in his general trustworthiness; but the book is, apart from that, condemned by the spirit and temper in which it is written. M. de Wulf, notwithstanding that he has thought it worth while, in a short preface, to discuss the meaning of 'history of philosophy,' and to suggest a theory of 'philosophical cycles,' has in point of fact no conception of treating the subject otherwise than as a theological censor. One can find in his pages the dates and opinions of many philosophers; but, except that some were more, and some less, in harmony with the 'central scholastic synthesis' represented by St. Thomas, one does not really learn anything of the organic connexion between their thoughts. Scholasticism is not indeed, according to M. de Wulf, necessarily the only synthesis which would harmonise with the Catholic faith (p. 148 n.), but the attempt at 'l'accord des enseignements de la religion catholique et des résultats de l'investigation philosophique' (p. 148) is a 'real and intrinsic' characteristic of it. Accordingly, a tendency to deflect from this 'accord' constitutes a school or type of opinion a 'deviation de la scolastique,' and, if more marked, 'antiscolastique'. This is M. de Wulf's consistent, and practically his only principle of classification. At the same time, he avoids the direct discussion of what he considers to be purely theological, rather than philosophical questions, such as those relating to the Trinity, as not belonging to a history of philosophy. Hence, even from the theological censor's point of view, the position of the writers discussed is never fairly and fully put before the reader; and remarks, or even exclamations, which can only be called jejune, often take the place of discussions, where theological sympathy is wholly absent; as when Behmen is dismissed, after a very slight indication of his teaching, with the ejaculation 'Quel dévergondage d'idées!' (p. 430). This absence from M. de Wulf's work of a genuinely scientific and objective attitude is all the more deplorable, because more significant of the atmosphere in which the author moves, that he gives his reader the impression of a scholar who wishes to study his subject in a serious and liberal spirit, and has taken no small pains to acquaint himself with the literature relating to it.

To the part of the book which deals with its main subject—mediæval philosophy—is prefixed an account,—called on the title page an 'aperçu'—of Indian and Greek philosophical systems. In regard to Greek philosophy the theological censor's attitude produces more curious results than in regard to mediæval. What are we to say to this astonishing account of the death of Socrates? 'Il fut condamné,' says M. de Wulf, 'à boire la ciguë, pour avoir combattu trop ouvertement le polythéisme et affirmé l'existence d'un dieu unique, l'immortalité de l'âme, la recompense des bons et la punition des méchants. Mort pour la confession des grandes vérités de la religion naturelle, Socrate aurait cueilli la palme du martyre en plein paganisme, si, au moment de mourir, il n'aurait, en un moment de défaillance, recommandé à ses disciples d'immoler un

coq qu'il avait promis à Esculape' (p. 37). What of the assertion (on p. 79) that the 'immortality of the soul' is a fundamental point of Aristotelianism—made notwithstanding that M. de Wulf is aware of the variety of opinion which existed in the middle ages as to Aristotle's teaching on this subject? What of the remark—as of one correcting an essay—with which Aristotle's political philosophy is dismissed (on p. 81), 'On soit que le Stagirite a gâté de belles pensées sur les relations familiales, en faisant l'apologie de l'esclavage'? Mistakes like *ἔρος* (p. 44) and *διαίρησις* (p. 45) are doubtless due to the printer; but the explanation of *πρᾶξις* and *ποίησις* on page 60 shows a lack of familiarity with the language of Greek philosophy.

In the part of the book dealing with mediæval philosophy there is much to which exception may be taken, and a reviewer with a larger knowledge of his own, would probably find more. The 'ontological argument' of St. Anselm is not given in the form in which he puts it; the statement of it in M. de Wulf's text bearing indeed no close resemblance to the Latin in the note (p. 180); and it is quite untrue to say that Descartes took no notice of St. Thomas's criticisms in reviving the argument; on the contrary, he expressly distinguishes his position from that criticised by St. Thomas in his answers to the charge of opposing the latter which his theological critics had not failed to bring against him (*Resp. ad 1as Obj. ad Meditationes*).

The historical knowledge of M. de Wulf is singularly defective for one undertaking the task of a historian of mediæval philosophy. He apparently thinks that Bede was an Irishman (p. 163); that the abbeys of Bec and, still more strangely, of St. Gall (for as to Bec the subsequent careers of its two most eminent sons might have misled him), were in England (p. 164); that 'Cornificius' was the real name of the person castigated by John of Salisbury, and that he founded a sect called the Cornificians (pp. 196, 212). Where is 'le comté de Halès' in England, from which, according to our author, Alexander of Hales derives his name? He states, as though there were no other account of the matter, that 'S. Bernard fit condamner Gilbert [de la Porrée] au concile de Reims en 1143. L'evêque de Poitiers retira ses propositions.' Whatever was the precise issue of that council, as to which the contemporary accounts vary, it is certain that this gives a very misleading impression, as though Gilbert was condemned in the same sense as Abelard had been. According to the full and contemporary account in John of Salisbury's *Historia Pontificalis*, he was not condemned, strictly speaking, at all; but undertook himself to correct his commentary on Boethius *de Trinitate* so that it should not disagree with certain propositions, the formulation of which was ultimately due to St. Bernard. John of Salisbury clearly supposes Gilbert to have really withdrawn nothing, and only by misunderstanding to have been regarded as heretical at all. Here however M. de Wulf follows one account (St. Bernard's), though he would have done better to indicate that there was another. One may suppose that Paul V., on page 182, as the Pope who sent the writings of the pseudo-Dionysius to Pepin, is only a misprint for Paul I.; and 'Les reguliers' on page 246 is certainly no more than a slip—though a serious one—for 'Les seculiers'. A worse one is the confusion of the Brethren of the Free Spirit and the Brethren of Common Life on page 369. Why does M. de Wulf always quote Ueberweg as Ueberwegs?

These defects are however trifling compared to that of the one-sided and partisan attitude which disqualifies M. de Wulf for the task he has undertaken. To say in a biography, however brief, of Abelard, that he was 'forcé de quitter Paris à cause du dérèglement de ses moeurs' (p. 201) with no further allusion to his famous and tragic history, is puerile; to describe in what should by its form be a dry statement of essential facts the mysticism of Sebastian Frank as 'sacrilegious' (p. 437) or Giordano Bruno as 'l'infame et déloyal persécuteur' of his abandoned religion (p. 417), is in a historian of philosophy worse than puerile.

CLEMENT C. J. WEBB.

Les Causes Sociales de la Folie. Par G. L. DUPRAT, Docteur ès lettres, Professeur de philosophie au Lycée d'Alençon. Paris: F. ALCAN, 1900. Pp. 202. Price 2 fr. 50 c.

This eminently lucid and readable little book does not aim so much at providing novel facts or propounding novel theories as at emphasising the admitted influence of social conditions upon various kinds of mental disease; and it has a practical as well as a scientific end in view. The psychological standpoint assumed by the author is that of his previous work 'L'Instabilité Mentale' (reviewed in MIND, Oct., 1899). Social forces, he now tells us, may produce or develop mental instability (1) by direct action on the nervous system; (2) by indirect action on the nervous system through the medium of consciousness; or (3) by direct action on the mind, a somewhat unsatisfactory method of classification. More important is the division by results: the influence may show itself in the aspect of the mental trouble or in its formation and essential nature. The variations of aspect—*e.g.* in megalomania—are disposed of in a single chapter. The author then clears the way for the main question by dismissing the vague term 'degeneration' from the etiology of insanity; 'pathological hereditary' is to be preferred, and it is mainly due to social causes. In chapters iii. and iv. it is shown that, though madness is essentially the same at all times, the predominant species varies with social conditions; characteristic of the present day is general paralysis, the product of many social evils (overstrain, luxury, alcoholism, etc.) that differ in relative importance in different countries, but have a common root in excessive competition. Chapter v. deals with 'Idées de grandeur' due to unbounded ambition and with the 'persécutés-persécuteurs'; chapter vi. with religiomania and its varying character among Mohammedans, Catholics and Protestants. Chapter vii. attempts to show that pathological states of instability and disaggregation can be ascribed to the body social, and that criminal insanity is their characteristic product; and the work ends with a few hints towards a 'social therapeutic,' in the course of which the author pleads for a more practical treatment of the insane, for a more virile system of education, and for the prohibition of unhealthy marriages, etc. 'Bref, il faut préparer une hérédité biologique et une hérédité sociale favorables à la santé morale.' The chief defect of the book seems to be the absence of a proper preliminary classification, distinguishing between more immediate and more remote causes of disease. Obviously the marriage of unhealthy persons and a tendency to unbridled ambition cannot be placed side by side in an etiological scheme. Further, it is not made sufficiently clear whether any given social influence—religion, for example—itself produces mental instability or whether it is merely 'like the match to tinder, the disorder being rooted in other causes' (Savage). Of details to which exception may be taken only two can be mentioned here. The author inclines to M. le Bon's unguarded habit of describing as a 'crowd' any number of persons (*e.g.* a sect) united by a common interest, and this leads to several dubious statements. Secondly, the application to the community of pathological terms borrowed from the individual is in some respects a confusing use of analogy; for the individual is proved morbid by rough contrast with the average, but M. Duprat contrasts all present societies, not with the average, but with the ideal. On the whole, however, this work, if insufficiently systematic, is both interesting and suggestive.

T. LOVEDAY.

Des Religions Comparées au point de vue Sociologique. Par **RAOUL DE LA GRASSERIE**, lauréat de l'Institut de France, Correspondant du Ministère de l'Instruction Publique, Associé de l'Institut International de Sociologie, Membre de la Société des Gens de lettres, de l'Académie de législation de Toulouse, de la Société de législation comparée, Docteur en droit, Juge au Tribunal de Rennes, officier de l'Instruction Publique. [Bibliothèque Sociologique Internationale.] Paris: V. Giard & E. Brière, 1899. Pp. 396.

To synthesise all religions (with the help of several histories of religion, not, however, the newest), to discover in them the common object of establishing harmonious social relations between man and the other 'beings' of the cosmos (vegetables, animals, demons and gods alike), and to formulate the laws governing the intercourse proper to such a "*suprà-société*" or "*hypersociété*," such has been M. de la Grasserie's labour of love, and thereby has "the science of cosmosociology" come into existence. The book proclaims itself a study in pure cosmosociology, and as such appeals primarily to the pure cosmosociologist. The author hopes that the Paris Exhibition of 1900 may witness a Congress of Religions, which shall inaugurate a universal religion by eliminating the "uncivilised" religions, by encouraging all to practise two religions just as one learns to speak two languages, and by promoting "syncretism or fusion". To such a Congress the book will certainly prove useful. Meanwhile, the student of Religion at its comparative level cannot fail to derive therefrom many a hint as to the advantage of applying the ideas of the higher sociology to the particular 'organism' whose habits he studies. A flood of light, for instance, is let in upon Moses' procedure in raising up a brazen serpent before the eyes of the Israelites by recognising it to have been a case of religious "vaccination". In short, only the "impious" man, "*l'anarchiste de la société cosmique*," is likely to pronounce the book either fantastic or superfluous.

R. R. MARETT.

Le Problème de la Mémoire; Essai de Psycho-Mécanique. Par le Dr. **PAUL SOLLIER**. Paris: Félix Alcan. Pp. 218. Price 3 fr. 75.

This book does not profess to be a theory of memory. The author holds that there is room for an examination of the problem of memory from the standpoint not of psychology or physiology but of pure physics; and accordingly he draws out analogies between the phenomena of memory or of its correlated brain processes and those of magnetism and electricity. The value of such exercises is open to question; to those who find amusement or profit in them this work should prove interesting, for Dr. Sollier shows abundance of ingenuity. The analogy of which he makes most use is that of an accumulator. However, the greater part of the book is given up to psychological and still more to physiological questions, which have to be settled before appropriate physical analogies can be found. The first chapter is an interesting, though not altogether accurate, discussion of previous views; chapter ii. deals with Fixation and Conservation; chapter iii. with Evocation and Reproduction; and chapter iv. with Recognition and Localisation. The last chapter treats of the evolution, seat, and mechanism of memory. As regards the 'seat,' Dr.

Sollier comes to the conclusion that there are (1) centres of reception which are also centres of representation, and (2) centres of perception—*viz.*, the frontal lobes—which are also centres of conservation and evocation. 'The phenomenon of evocation includes the study of all the conditions and influences that prepare the way for reproduction.' The discussion is clear, but it would gain by condensation. Occasionally we meet with very novel statements, and the grounds for them are not always given—*e.g.*, the assertion of 'parallel' alteration of 'cerebral activity' and electrical resistance of the brain is quite valueless apart from an accurate account of experimental conditions and a full record of figures, etc. (p. 198). On p. 176 ff. observations are repeated from the author's previous work on Hysteria. Some of them are very remarkable and require confirmation, as does his whole doctrine of 'cerebral coenæsthesia'.

T. L.

Les Troubles Mentaux de l'Enfance : Précis de Psychiatrie Infantile avec les Applications Pédagogiques et Medico-légales. Par le Dr. MARCEL MANHEIMER, Ancien Interne des Asiles de la Seine, etc. Préface de M. le Professeur Joffroy. Paris : Société d'Editions Scientifiques, 1899. Pp. 188.

This little treatise is what it professes to be—a *précis* of what is best in the recent studies of infantile mental troubles. Full references are given. The book thus provides the elementary student with all he requires, and prepares for him a line of future study. Dr. Manheimer, starting from the "evolution of the infant in the normal state," summarises, in the first part, the causes of insanity. In the second part, Semeiology, he gives a chapter to each leading division—troubles of the feelings, intelligence, including attention, memory, etc., activity, impulses, will. In the third part, he classifies mental diseases. The classification, which follows Magnon and Krafft-Ebing, aims less at theoretical freedom from cross-divisions than at didactic sufficiency. The main groups are first, pure psychoses, including mania, melancholia and recurrent insanity; second, states of degeneration,—the deliriums, with troubles of intelligence, feelings, etc.; third, the neuroses,—some being really degenerations, but special enough to demand a class apart; fourth, toxic insanities: fifth, as supplementary, the dementias,—states of regression; sixth, states of arrest—idiocy, imbecility. Only the features special to children are elaborated. The fourth part is Medico-legal. It deals with responsibility in infants, varieties of criminal infants, infant evidence and suicide. The fifth part deals with treatment and public assistance. There is a statistical appendix. The little book shows a vast amount of sifted reading; it is relevant and adequate in its summary of opinions, and, accordingly, it is a good handbook to the practical study of insanity in children. There is not much room in the book for discussion of psychological refinements, but the paragraphs on "traitement psychologique" show a careful study of suggestion. Great stress is laid on the "*illusion* of sleep" in non-hysterics. The illusion is found to be sufficient, "car elle peut être rendue très forte" (p. 160). And so the Charcot view of the true hypnotic sleep as possible only in hysterics is saved.

W. LESLIE MACKENZIE.

Le Problème des Sexes. Par JACQUES LOURBET. Paris : Giard et Briere, 1900. Pp. 301.

This work is the twenty-fourth volume of the International Library of Sociology, and it speaks well for the interest which is taken in Sociological questions in France that so large a number of works should have been published by the International Library in so short a time. M. Lourbet commences the study of his problem by a review and criticism of the researches that have been made in the domain of experimental psychology. As a result of this review and criticism he arrives at the conclusion that the mental evolution of woman has not yet been completed. Hence arises in his opinion the problem of sex. M. Lourbet then goes on to examine the opinions of such men as Prof. Lombroso, Prof. Fouillée, M. Faguet, Mr. Herbert Spencer, etc., as to the mental and social status of women. He compares the mental capacities of men and women. He considers whether and in what direction maternity and its burdens tend to diminish high intellectual activity. He deals with what love between the sexes has been in the past and what it ought to be in the future. As a result of his inquiries, M. Lourbet arrives at the following conclusions: In the early stages of civilisation physical supremacy favoured mental development, and the reason why women have hitherto been less inventive and less brilliant than men in the intellectual sphere is to be attributed to their physical inferiority. But civilisation has now reached a stage when physical force has been dethroned by mental force. This fact introduces a new element into the problem and prevents us from being able to assert that as woman has been inferior to man in the past she must necessarily be inferior to him in the future. Most of the judgments passed by men on women are the products of instinct rather than of reason, and contemporary science has been unable to establish the fact that women are stricken with an incurable mental inferiority. What is wanted at present is to abstain from assertions respecting the equality or the inequality of the sexes, but to proceed to give women liberty. Liberty is the only way in which a woman can develop the capacities within her. It is the mother of originality, of variety of progress; the only safeguard of moral and intellectual autonomy. The solution of the sex problem is to give woman liberty to be herself, in which, of necessity, is included the fullest economic liberty. Liberty would not lead to an obliteration of sex characteristics: these will always exist. Men and women will never be equal because they will never be entirely the same. But inequality will not mean predominance, it will mean variety, it will merely mean that there are diversities of gifts, and that these diverse qualities are all needed to give completeness and symmetry to the social organism. A fine, if at times a somewhat dithyrambic spirit, prevades M. Lourbet's book. His conclusions rest upon intuitions and hypotheses and not exclusively on established facts. It cannot be said that he has added much new material to the discussion of his subject. But he has dealt with existing material in a sincere and lucid manner.

Les Paysans et la question paysanne en France dans le dernier quart du XVIII. siècle. Par N. Kareiew, Professeur d'histoire a l'Université de Saint-Petersbourg. Paris: Giard et Briere, 1899. Pp. 634.

This is an excellent book, translated from the Russian, but it is more directly concerned with economics than with social science in the strict sense of the term. It is a careful and exhaustive study of the condition of the French peasantry in the last quarter of the eighteenth century. The work is divided into seven parts which treat respectively of the relations of the nobles and the peasants, the townsmen and the peasants, the state and the peasants, the general situation of the peasantry before the revolution, the peasant question in its various aspects, the attempts at rural reform, the elections to the States General in 1789 and the solution of the peasant question. In the preface to the French translation Prof. Kareiew says that the subject of the present volume was suggested to him not only by a scientific interest in the French Revolution but also by the social interest that the peasant question has for Russia at the present day. The 19th February, 1861, was for Russia what the 4th August, 1789, had been for France. In the eighteenth century the condition of the peasantry was the principal social question in France: in the middle of the nineteenth century it was the principal social question for Russia. Prof. Kareiew lived through the period when the peasant question was being dealt with in Russia, and the present volume was written under the direct influence of the impression formed by the author during that period. It is a book which will well repay reading by all who are interested in the economic aspect of social questions.

La Marche de l'Humanité et les grand hommes. Par E. BOMBARD.
Paris: Giard et Briere, 1900. Pp. 313.

M. Bombard is a disciple of A. Comte and the present work is a condensation of positivist ideas and principles. In the first part of the book the author gives a general sketch of the history of human development from the remotest time to the present day. In the course of this sketch he shows the relation of great men to the civilisation of the period in which they lived. In the opinion of M. Bombard the social unrest which characterises modern European civilisation is the result of the struggle which is going on between science and theology—a struggle which began in ancient Greece but did not become accentuated till the sixteenth century of our era. A crucial period was reached in 1789. Science then believed it was able to take complete direction of human affairs, and to supplant the sanctions of theology by sanctions of its own. But this was proved to be an illusion. Science failed in its attempt because it did not possess sufficient knowledge of biological and sociological laws. Auguste Comte has filled up this gap, and science is now able to fulfil the task which was too much for her a century ago. In the middle ages Catholicism served as a guide to the western world. It is now in ruins, but as yet nothing has taken its place. At present mankind owing to the spread of international relations is more than ever in need of moral direction. But mankind will not accept direction of this character unless it is resting on a scientific basis. Positivist morality alone possesses this characteristic: it alone can become universal and serve as a new guide to a bewildered humanity. M. Bombard does not consider that science necessarily leads to morality, and positivist morality is not scientific in the sense that it is the inevitable outcome of science. Positivist morality is scientific because it discards theology and is constructed solely of scientific materials. In the second part of his book M. Bombard deals with the evolution of the intelligence, and shows that the only cause of the superiority of the white races is to be attributed to their greater aptitude for abstract science. In an appendix the principles of positivism are briefly set forth so as to give the reader a summary view of the contents of positivist doctrine. We may say of M. Bombard's volume that it is a useful introduction to the writings of Comte, and the principles of his philosophy as understood by his disciples at the close of the century.

Les Idées egalitaires Étude sociologique. Par C. BOUGLÉ. Paris:
Félix Alcan, 1899. Pp. 249.

M. Bouglé is already favourably known to students of French sociological literature by his excellent little book on social science in Germany, published about four years ago. That book was principally confined to an exposition of the methods of sociological investigation which were dominant on the other side of the Rhine. But it showed that M. Bouglé had given deep and serious attention to his subject, and was quite capable of conducting sociological investigations on his own account. In the first part of the present volume he defines the idea of equality, he shows the reality of this idea, and then proceeds to give an anthropological, ideological and sociological explanation of it. M. Bouglé goes on to ask: Why does the idea of equality, such as he conceives it, appear only in western civilisation—at first in the decadent Greco-Roman world and secondly in our own day? His answer is based on two grounds—psychological deduction and historical induction—and it is to the effect that the social structure of western civilisation is peculiarly adapted to the success of the idea of equality. This idea is in part the result and in part the cause of the present constitution of modern western society. How far the idea of equality is the result and how far it is the cause of present social conditions and tendencies M. Bouglé does not undertake to determine. But he shows very clearly that equality is not a mere theory begotten in the brain of philosophers and that it is sufficient to refute Rousseau, let us say, in order to exterminate the equalitarian sentiment. This sentiment is not a theory originally matured in the minds of a few and implanted by reason, contagion, and imitation in the minds of the many. It is something much deeper than that. It is the outcome of the whole formation of modern society. Hence the idea of equality cannot be destroyed by assailing the arguments of its literary exponents. It can only be destroyed by undermining the whole social structure out of which it has arisen. If M. Bouglé's view of the origin and basis of the sentiment of equality is right—if equality is a product of the structure of society—the attacks upon this idea, which have been so fashionable in recent years, must be regarded as extremely shallow and futile. The operative power of this idea will not be affected by laughing Rousseau and his companions out of court. It will only be affected by revolutionising the social structure on which this idea is based. M. Bouglé's book both as regards its sociological method and its contents is well worth reading.

Savants Penseurs et Artistes; biologie et pathologie comparées. Par THÉODORE WECHNIAKOFF. Publié par les soins de Raphaël Petrucci. Paris: Félix Alcan (*Bibliothèque de philosophie contemporaine*), 1899. Pp. ix, 221.

This little volume of concise 'notes,' prepared for readers of French by M. Petrucci, forms a contribution or, at least, a supplement to the author's central work, *Typologie anthropologique des arts et des sciences*, and needs to be read in connexion with the latter. In an interesting preface the editor gives the story of the appearance of this greater work and its adjuncts. They have been compiled in the leisure hours of a long judicial and political career in Russia, and their publication covers a period of about forty years. They form collectively an attempt to analyse both the intellectual product and the intellectual producer, as mutually reacting. And in this particular volume we have, in mere outline, an attempt to classify sundry types of intellect as expressed in certain modes of production, and as suffering in certain specified ways, physical and mental, from the effects of those modes of production. These certain ways are exemplified by some one or two illustrious cases: Darwin, Da Vinci, Comte, and so on. Or rather, the illustrious cases may be said to have given the occasion for forming so many classes, or nuclei for classes. And, consequently, the effect on the reader, as in other works of this nature, will probably be felt as unconvincing. The *cases* are no doubt of great interest. But statistically they cannot be said to establish anything. Suggestively they may no doubt have a certain scientific value.

Kurze Erklärung der Ethik von Spinoza und Darstellung der definitiven Philosophie. By Dr. RICHARD WAHLE, K.K.O.Ö. Professor d. Philosophie an der Universität Czernowitz. Wien und Leipzig, Wilhelm Braumüller, 1899. Pp. 212. Price, 3s. net.

The author claims to have shown in three articles (quoted, p. 3)—as against current interpretations—the "naked Naturalism and Positivism of Spinoza". The present work—in its interpretative part—professes to give a short outline of the main positions of Spinoza, and is intended as a guide to the study of the Ethics. The author complains that K. Fischer had spoken of his previous efforts in a manner calculated to keep the public from studying them: and this has forced him to try once more to obtain a hearing (pp. 3-5).

Spinoza is "not quite right"; but the author intends to criticise only so far as criticism is necessary for understanding. More would be superfluous: for "the right Metaphysics are given in the second part of the work" (p. 7).

On the whole the interpretative part (pp. 18-163) is interesting, though by no means so original as Dr. Wahle appears to think. His main position can be indicated by the following quotations:—"Spinoza's doctrine is pure Atheism" (p. 30): "There is nothing supernatural behind Spinoza's Substance. His 'God' signifies the plainly-given visible All" (p. 34). Spinoza is no Pantheist—he believed "*der Gott sei mit Händen zu greifen*"—"the only frame into which all the propositions of the Ethics fit naturally and exactly is that of crude Naturalism" (p. 38). "The human mind . . . is nothing but the series of ideas, primarily only a single idea" (pp. 26, 45, 76, 77)—"Spinoza does not believe in that fabulous Unity of Consciousness of which our Psychologists are still enamoured" (p. 81). [This interpretation of Spinoza's conception of the mind does not, I think, agree with Dr. Wahle's remarks on the distinction between '*Actio*' and '*Passio*' (pp. 87, 88): and—at any rate in this extreme form—is not borne out by the text of the Ethics.] "Spinoza is a complete Positivist" (*cf. e.g.* pp. 46, 47 and *passim*). "The whole of the fifth part of the Ethics—far from showing that Spinoza was a Mystic—agrees completely with the Positivism of the earlier parts" (p. 151). The relation of Substance to the Attributes is simply that of a Thing to its Properties as the ordinary unreflective consciousness conceives it (p. 68).

In short, Dr. Wahle is so anxious to clear Spinoza of Mysticism that he makes him the exponent of the barest and crudest common sense. Spinoza's 'God' is certainly not the God of Christianity or Theism:—but is as certainly not the 'All' or the 'Absolute' in the sense which Dr. Wahle appears to attribute to these terms, *i.e.*, the mere aggregate of things as the unreflective experience of every day takes them.

The author's remarks (pp. 50 and 53) about *Natura Naturans* and *Naturata* are not clear: and his assertion (p. 57) that "there is no emphasis in Spinoza of a distinction between Indefinite and Infinite" leaves the important letter on the Infinite out of account. There are, however, some good remarks on the mode of interpreting a Philosopher (pp. 6, 9), on the geometrical method (pp. 18-24), and on Spinoza's terminology (pp. 25-29)—though the author has not succeeded in justifying all that he says in the latter passage. There is an interesting discussion (pp. 61-67) as to whether *Thought* and *Extension* are parallel on Spinoza's view (the interpretation which the author finally adopts), or whether they are simply two names for a unique series of Modes. The digression (pp. 95-123), containing the "System of all discoverable Ethical Regulatives," comes to the conclusion that no ethical theory can furnish us with demonstrable rules of action. The book would gain by its omission.

The second part of the book (pp. 167-212) contains an exposition of (what the author considers) the final Philosophy.

Section 1 (pp. 167-183), on "the Realm of the true Products," would have led—if the author had been consistent—to Solipsism of the extremest type, *i.e.*, to a view for which my feeling of the instant is the only reality—'*I*' *myself* being unreal. But the author, by an amazing inconsistency, arrives at certain ultimate realities to which he ascribes 'Resistance': a quality guaranteed apparently by our observation of the interaction of bodies (*cf. eg.*, pp. 171, 205).

The general conclusions of Section 2 (pp. 183-212), on "the Realm of the true Causes," may be indicated by a quotation from p. 211: "In earlier times, a new metaphysical theory might have been based on views like those we have advanced. But we have no inclination to do so: for us there remains the infinite 'know-nothingness' (*die unendliche unwissenheit*): there is left for us only the indestructible truth that we must not regard knowledge as an activity of a peculiar subject-factor standing over against other factors: nothing is left to us but the certainty that so-called Knowledge, Pictures, Occurrences are simply products of Original Factors". Our author, indeed, becomes excited and obscure, if any one mentions 'Knowledge' to him (*cf. eg.*, pp. 175 *ff.*, 204 *ff.*): and he insists that we are (and must remain) in complete ignorance as to the 'ultimate Factors'. Strange that he should be able to say so much about their positive character!

H. H. J.

Philosophische Forschungen. (*Aus dem russischen übersetzt. Mit einem Vorwort des Verfassers.*) Von P. Tschitscherin. London: Williams & Norgate. 1899. Pp. 536.

In a brief foreword to this German translation of his work the author admits that, in the century now expiring, philosophic thought in Russia has been dominated by German science and philosophy; but believes that, with the recent removal of many barriers to thought, the European revival of philosophy may find characteristic expression in his own country. Seeking above all things to be constructive and synthetic, he devotes the first half of his book to a review of the synthetic thought of Comte. Herein he claims to have "tested the content of all the principal sciences, both of nature and of mind, in their modern form, and to have brought together their philosophic results". And his conclusion is that "without a scientific elaboration of metaphysic no unity in scientific investigation is conceivable". In the second part he proceeds to set out what in his view constitutes the principles of metaphysic and also of logic. For, he holds, "metaphysic is nothing else than the deducing of the categories of logic and the application of them to being (*das Sein*)".

Whether he herein has greatly emancipated his own from German thought let readers judge. In intention the work is worthily ambitious. The English reader will find interest in seeing British experientialism, in so far as it rejects all *a priori* elements, termed "a theory of stupidity," *i.e.*, of unreason.

An der Wende des Jahrhunderts. Von Dr. LUDWIG STEIN. Freiburg: Mohr; London: Williams & Norgate, 1899. Pp. 415.

Dr. Stein is already favourably known in the world of social science by his excellent work on social philosophy published a year or two ago. The present volume is not a systematic exposition like its larger predecessor; it is a series of twenty essays, several of which have already appeared in print in various German periodicals. The only bond which unites them into a sort of consistent whole is that all these essays deal more or less directly with the philosophy of civilisation. In his work on social philosophy Prof. Stein dealt with the social question by the comparative historical method. In the present volume he deals with a number of other problems by examining them in accordance with exactly the same method. Among these problems are the nature and task of sociology, Darwinian and Socialist ethics, the philosophy of peace, the political and social tasks of the twentieth century, religious optimism, natural laws and moral laws. Essays of a somewhat different character are devoted to the subject of Greek philosophy among the Arabs, the last works of Nietzsche and Nietzsche as a philosophical classic. The essays on Greek philosophy among the Arabs are very well done. The whole book in fact is full of interest, and where Dr. Stein does not succeed in convincing he always awakens thought. Essays dealing with such a variety of subjects and many of them necessarily controversial in character cannot be discussed in detail in the space at our command. But we may say of them that they are the work of a man of keen intellect and comprehensive vision who is abreast of all the best knowledge of his age.

Del libero arbitrio. By C. BIUSO. *Libri tre.* Firenze: G. Barbèra, 1900. Pp. 303.

Of the "three books," the first classifies systems of philosophy and theology with respect to the free-will question; the second criticises them in this connexion; the third gives the author's view on the problem. To be confronted by yet another book on this subject—*ardua e infruttuosa*, to quote the author — is scarcely exhilarating. Its vitality is almost exasperating. And if M. Biuso seems with one hand to bring the discussion within hailing distance of closure, he gives with the other a fresh stimulus to controversy. An adequate historical review and the spread of a grasp of psychological analysis: by means of these agencies further discussion should wither away. The former is given us in books i. and ii., and is both concise and thorough so far as it goes. It is only regrettable that, at this time of day, the inquiry should still have been limited to Socrates and to Judaism for the philosophical and theological sources of the controversy respectively. The author quotes the dictum that belief in the freedom of the will is impossible without belief in a hypostatic *anima spirituale.* But if he had exercised the least curiosity to discover whether his subject ever presented itself in the problems of the other half of the world's older philosophies, he would have been able to include a striking confirmation of his dictum. I refer to the reasons given by the founders of Buddhism for rejecting the theory of an unconditioned psychical substance. Those reasons are now as accessible to readers of English and German as the Dialogues of Plato.

The stimulus to further discussion is due to the fact that the author's criticisms lead up to a confession of his Materialistic standpoint. The identification by the Materialist of matter with the real is such 'penal servitude for life' to most philosophers that the writer's criticisms will not be taken as seriously as they may deserve to be. In no case will a work emanating from such a standpoint be accepted as a final summary of controversy. And this, again, is regrettable.

C. A. F. Rhys Davids.

Received also :—

J. MacCunn, *The Making of Character*, Cambridge, University Press, 1900, pp. 226.

J. Larmor, *Æther and Matter*, Cambridge, University Press, 1900, pp. xxviii., 365.

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John Burnet, *Ethics of Aristotle*, London, Methuen & Co., 1900, pp. lii., 502.

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T. Ruyssen, *Kant*, Paris, F. Alcan, 1900, pp. x., 391.

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G. Tarozzi, *Della necessità nel fatto naturale ed umano*, Torino. E. Loescher, 1896, 97, 2 vols., pp. 289 and 351.

G. Tarozzi, *Ricerche in torno ai fondamenti della certezza razionale*, Torino, E. Loescher, 1899, pp. viii., 272.

F. de Sarlo, *Il concetto dell' anima nella psicologia contemporanea*, Firenze, 1900, pp. 45.

L. M. Billia, *L'Esiglio di S. Agostino*, Torino, Fratelli Bocca, 1899, pp. xi., 148.

Encyclopædia Medica, vol. iii., Edinburgh, Wm. Green, 1900, pp. vi., 544.

XI.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. viii., No. 6. **G. T. Ladd.** 'The Philosophical Basis of Literature.' [The philosophical basis of literature is "man's power to express his ideas of value in language whose form commends itself to a cultivated æsthetical appreciation as suitable to such ideas". Detailed consideration of language, of the philosophy of form, and of ideas of value (happiness, sublimity, moral excellence), with illustrations from literature.] **W. Caldwell.** 'Von Hartmann's Moral and Social Philosophy (II.). The Metaphysic.' [The various forms of the metaphysic of ethics: metaphysical monism, the religious principle, the absolute moral principle, the negative-absolute-eudæmonistic (salvation) principle. The positive outcome of Hartmann's dialectic seems to be that morally educated and experienced men can help to redeem humanity by freeing it from the happiness-notion. Various uses of the term 'unconscious,' as (1) the unconscious in nature and history; (2) the unconscious as desire; and (3) as evil. Outcome of the philosophy of the unconscious: "in the moral life we may be obliged to follow out many ends that are prescribed to us more by the unconscious logic of our nature than by our conscious reason, and also by the unconscious logic of nature or of history".] **H. Davies.** 'Psychological Experiences Implicating the Concept of Substance.' [The concept of substantiality is involved in (1) 'awareness' of an object; (2) all experiences where the mind actively discriminates itself as the ego; and (3) the sense of a transcendent activity applying the logical function on the basis of essential and mutual activity between the two orders of our experience. Critique under these three rubrics of the views of Kant, Wundt, Ward, James; Spinoza, Kant, Spencer; Kant, Hegel.] Reviews of Books. Summaries of Articles. Notices of New Books. Notes. Vol. ix., No. 1. **G. H. Mead.** 'Suggestions towards a Theory of the Philosophical Disciplines.' [Assumes that "analytical thought commences with the presence of problems and the conflict between different lines of activity," and continues as the expression of such conflict and the solution of the problems involved. On this basis, metaphysics may be regarded as the statement of the problem, deductive logic as interpretation in terms of past experience, psychology as the abandoning of all but subjective validity and the implied looking forward to new meanings, inductive logic as the advance to a new universal, etc. Follows Dewey, but lacks Dewey's clearness.] **F. Thilly.** 'Conscience.' [Psychological analysis of conscience, as a specific feeling, or complex of feeling and impulse. This feeling of obligation comes late in the history of the individual and the race. It may become fixed and habitual, and be heritable. The judgments of conscience are analytical.] **W. A. Heidel.** 'Metaphysics, Ethics and Religion.' [The typical form of progressive mental life is "intellectually mediated activity toward the realisation of ends, the cycle being completed by the purposed act". To understand the standpoints and conceptions of metaphysics, etc., we have to examine them with a view to their localisation at the appropriate juncture in the teleological cycle at which they take their rise. A second exposition of Dewey's principles.] **F. Paulhan.** 'Contemporary Philosophy in France.' [(1) The philosophy of the special sciences: psychology, æsthetics, sociology. (2) The general philosophy of the sciences (Lalande, Durand de Gros, Piat). (3) The philosophy of philosophy: the schools of Ravaisson and Lachelier and of Renouvier (Bergson, Fouillée, Tarde, Ribot, Paulhan). (4) Current tendencies in the social mind to which French philosophy appeals.] Reviews of Books. Summaries of Articles. Notices of New Books. Notes. **W. K. Brooks** and **M. F. Washburn.** 'Naturalism and Freedom.'

PSYCHOLOGICAL REVIEW. Vol. vii., No. 1. **H. Muensterberg.** 'Psychological Atomism.' [Plea for a regress, behind the sensation-element of structural psychology, to psychological atoms. Hypothetical characterisation of these, as absolutely dissimilar each to all; all co-ordinated; varying through all degrees of vividness; interacting by association and inhibition, etc.] **F. H. Verhoeff.** 'Shadow Images on the Retina.' [Description of Le Cat's experiment, and summary of the various stages in its explanation. Account of an inversion of this, a 'white shadow' experiment, with a small black spot replacing the pin-hole.] **C. Wissler** and **W. W. Richardson.** 'Diffusion of the Motor Impulse.' [There is a diffusion of the motor current in the arm, following out "an order corresponding to anatomical and functional relations in such a way as would occur in an irradiation of the current in the cells of the cortex or in the spinal cord". The current also follows the lines of development, showing "constant leakage into the old channels". **M. F. Washburn.** 'The Colour Changes of the White Light After-image, Central and Peripheral.' [(1) The dependence of the colour series on duration and intensity of stimulus. Method of overlapping images. (2) The colour changes of the peripheral white light image. Accurate observations: too detailed for summary.] **J. Jastrow.** 'The Pseudoscope and Some of Its Recent Improvements.' [Wood's stereoscopic pseudoscope; Stratton's and Ewald's mirror pseudoscopes; Wheatstone's total reflexion pseudoscope; interchanging of stereoscopic half-pictures.] Discussion and Reports. **H. N. Gardiner.** 'Professor Stumpf on Emotion.' [The significance of Stumpf's article lies in its recognition of the value of the 'sensualistic' theories and in the concessions made to them.] **H. M. Stanley.** 'The Genesis of General Ideas from Group Perception.' [Brief criticism of Wundt, James, Romanes. Correlative with presentation and recognition (representation) of the individual are presentation of masses and recognition of component members. Out of the latter, the vague hypothetical general idea evolves as a shorthand method, in turn denoted by language.] **S. I. Franz.** 'On After-images: an Explanation.' [Reply to Washburn.] **J. H. Hyslop.** 'Newspaper Science.' [Denies the writer's intention scientifically to demonstrate the immortality of the soul.] Psychological Literature. New Books. Notes.

Monograph Supplement. Vol. iii., No. 1. **B. B. Breese.** 'On inhibition.' [Various views of physiological and psychological inhibition. Experiments. (1) Inhibition of sensation by sensation. Binocular rivalry. Effects of effort to hold monocular field, elimination of eye-movement, counting lines of monocular fields, unilateral bodily contraction, coloured borders, intensity of stimulus, etc. (2) Inhibition of mental states by suppression of their motor elements. "The condition of consciousness is the transference of the action of the stimulus into or toward motor activity." Application to education.] No. 2. **S. I. Franz.** 'After-images.' [Study of visual after-images, in regard to limen, latent period, duration, fluctuations, qualitative change, space-relations, retinal transfer. Relation to sensation, memory, imagination; history, bibliography.—The observations are good; but the author seems to have no perspective in theoretical matters.] Vol. vi., No. 5. **W. P. Montague.** 'A Plea for Soul Substance.'—I. [The mystery of the seeming efficacy of final causes in the world of mental facts has called forth five explanations: those of pure teleology, materialism, occasionalism, parallelism and spiritualism The first three may be briefly dismissed. Parallelism proves inadequate, on close logical scrutiny. It remains to assume the existence of a soul-substance. Descriptive psychology needs this, and we have a right to hypostatise the conception as soon as it is properly defined.—A loose paper.] **R. Dodge.** 'The Reaction-time of the Eye.' [A stimulus is thrown on the blind spot of the resting eye. Since any slight movement will bring it into view, the natural movement following some peripheral stimulation will do so, provided it last long enough. The duration of the stimulus which just allows the observer to see it, after the cue for movement is given, is the reaction-time of the eye. After correction made for constant errors, the time for two observers proved to be 162 and 170 σ respectively.] **G. A. Coe.** 'A Study in the Dynamics of Personal Religion.' [Examination of the conversion-experiences of seventy-four persons (nearly all college students) by a highly elaborate questionnaire, supplemented by personal interviews, scrutiny of temperamental manifestations, interviews with friends of those under observation, and hypnotic experiments. "Three sets of factors favour the attainment of a striking religious transformation: the temperament factor, the factor of expectation, and the tendency to automatisms and passive suggestibility."] Shorter Contributions and Discussions. **M. W. Calkins.** 'Attributes of Sensation.' [Sensation cannot have attributes, since it is an elemental fact of consciousness and, as such, irreducible. Moreover, duration is a complex of conscious elements, and quality, extensity and intensity are elemental processes in their own right.] **M. Meyer.** 'Is the Memory of Absolute Pitch Capable of Development by Training?' [Experiments on forks and piano, showing (against von Kries) that systematic and lasting practice develops memory of absolute pitch.] Psychological Literature. New Books. Notes.

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. xi., No. 1. **I. M. Bentley.** 'The Memory Image and its Qualitative Fidelity.' [A systematic and successful attempt to isolate the memory image, to compare it qualitatively with the sense-complex from which it derives, and to estimate the extrinsic and intrinsic factors tending to modify its original quality. (1) Memory of so simple a thing as a coloured or grey disc may be mediated by a colour or brightness image, by names (verbal descriptions or associates), by affective processes (felt organic sensations), or by strain sensations in the head and about the trunk. (2) Greys and colours exposed in daylight tend (if the subject is at all visual in type) to lighten in visual memory. (3) Greys shown in the dark tend to darken in visual memory during an unilluminated interval. These two facts show the importance of peripheral influences on memory, and suggest that it is often only by a combination of various memorial resources that retention is made definite and exact. (4) Qualitative fidelity shows no constant change from 2 to 6 seconds after the cessation of stimulus; it loses in accuracy from 10 to 60 seconds, the direction of change being constant. Above, 1 minute to 5 minutes, the inaccuracy increases. On the other hand, the image is more readily producible after 5 than it is after 1 minute. (5) Images are available in the great majority of cases of brightness and colour memory. Under such circumstances, memory is, on the whole, somewhat more accurate, though perfect accuracy is compatible with the absence of an image. (6) The average duration of the memory after-image is quite constant.] **V. F. Moore.** 'The Psychology of Hobbes and Its Sources.' [Sketch of Hobbes' psychology from the *Lev.*, *De Corp. De Hom.*, and *Human Nature.* Bacon furnishes the conception of psychology as science, the general empirical trend of thought, and various special suggestions. Descartes gives the conception of nature as mechanism, and the extension of the mechanical principle to body and mind.] **F. Angell** and **H. Harwood.** 'Experiments on Discrimination of Clangs for Different Intervals of Time (I.).' [Difference between discrimination of two successive impressions and serial memory. Between the limits of 1 second and 60 seconds there is "no general law of sensory memory," *i.e.*, no loss of memory with lapse of time, in experiments with clangs (reed notes) whether with or without distraction. The results therefore disagree with those of Wolfe. We must examine into the various modes of judgment-formation, and into the validity of the old doctrine of recognition by a memory-image.] **W. S. Small.** 'Notes on the Psychic Development of the Young White Rat.' [Extracts from Diary, first to twenty-eighth day. Discussion of sucking; sensations (especially 'sense of support' and orientation, and sight and hearing); instinctive activities (huddling, play, etc.); affective states (fear, curiosity); and intelligence.] **M. H. Carter.** 'Romanes' Idea of Mental Development.' [Romanes held but vaguely that mind is casually related to organic evolution. The relation of mind to body is, for him, one of complete monism. Mind covers only those vital manifestations which give evidence of purpose and choice. Mental Development consists "essentially in a progressive co-ordination of progressively-developing faculties," preceded by a similar development of the physical substrate of mind, the body.] **E. B. Titchener.** 'Minor Studies from the Psychological Laboratory of Cornell University (XVIII.). **H. O. Cook.** 'Fluctuation of the Attention to Musical Tones.' [Maintains, against Heinrich, that minimal tones (acoumeter, tuning-fork, blown bottle) fluctuate as do minimal noises.] Psychological Literature. Notes and News. Books Received.

REVUE PHILOSOPHIQUE. May, 1900. **F. Le Dantec.** 'Homologie et Analogie.' [A long and interesting article, discussing the principles which should regulate natural classification.] **Gérard-Varet.** 'La Psychologie Objective.' [History studies events; sociology, states; objective psychology, tendencies. These tendencies are universal and permanent, although in the course of mental development they may be pushed into the background or take on forms in which they are not immediately recognisable. Hence they are the subject of objective, rather than subjective, psychology, for the latter deals with the higher forms of mind, *i.e.*, self-consciousness, while the former is concerned with thought in its spontaneous manifestations.] Notes et discussions. **Claparède.** 'Sur l'audition colorée.' **Richard.** 'Les droits de la critique en matière sociologique.' Revue critique. **G. Richard.** 'Travaux italiens sur la criminalité.' Analyses et Comptes Rendus. June, 1900. **P. Paulhan.** 'Les Esprits Synthétiques.' [In minds of this type ideas are assimilated *en bloc* instead of singly, which frequently involves inner contradiction and inconsistency; on the other hand they exhibit a mental robustness generally lacking in those of the analytic type.] **Dugas.** 'Fanatisme et Charlatanisme.' ["Normal ideas" are such as engender (1) judgments; (2) actions. 'Pure' ideas fail to do this. They may engender (*a*) actions, but such as are vain and foolish only; (*b*) judgments only and these materially false; (*c*) neither judgments nor actions.] **Calinon.** 'Sur la Géométrie Numérique.'

Blum. 'Le Mouvement Pédologique et Pédagogique (I.).' Analyses et comptes rendus. Revue des Périodiques étrangers.

SOCIETY FOR PSYCHICAL RESEARCH, PROCEEDINGS. No. 35, July 1899, pp. 286. **Charles Richet.** 'On the Conditions of Certainty.' [Announces that upon recent careful re-examination he is once more convinced of the genuineness of Eusapia Paladino's 'physical phenomena'. **Mr. F. W. H. Myers** adds a note to the same effect.] **Alice Johnson.** 'Coincidences.' [A careful and valuable discussion of the whole subject covering 170 pp. full of interesting matter.] **Mary H. Kingsley.** 'The forms of apparitions in West Africa.' [A most entertaining anthropological study of native superstitions.] **Dr. J. Shepley Part.** 'A few notes on occultism in West Africa.' [Evidence as to cases of occult transmission of intelligence by natives which came within the author's knowledge.] **F. C. S. Schiller.** 'Psychology and Psychical Research.' [A polemical reply to Prof. Münsterberg's attack on the Society for Psychical Research in his article on 'Psychology and Mysticism' (*Atlantic Monthly*, January 1899). Treats him with entire disrespect and accuses him of 'grossly misrepresenting both the aims and methods of the Society for Psychical Research.'] **F. W. H. Myers.** 'Dr. Morton Prince's Experimental Study of Visions.' [A case of tripartite personality.] **A. R. Wallace** and **J. G. Smith.** 'Extract from J.-E. de Mirvilli's account of the experiences of Robert Houdin the conjurer with Alexis Didier the clairvoyant.' Reviews, Lists of Members. No. 36. February, 1900, pp. 107. **Andrew Lang.** 'The Fire Walk.' [Amongst other remarkable accounts contains the experiences of a British Resident in Rarotonga who received the '*mana*' of a local priest and walked barefoot across twelve feet of white-hot stones unscathed, and feeling only "something resembling slight electric shocks". Mr. Lang proffers no theory of this extraordinary but apparently widely and well-attested phenomenon.] **Mrs. Henry Sidgwick.** 'Discussion of the Trance Phenomena of Mrs. Piper.' [Points out that the spiritistic interpretation of these is not free from difficulty; suggests that telepathic rather than direct action of the departed may be involved, affecting either the sitter's or Mrs. Piper's subliminal mind and worked up by Mrs. Piper's trance personality.] **Andrew Lang.** 'Reflections on Mrs. Piper and Telepathy.' [Admits a "bias not to believe that the dead are in any way mixed with sittings at so many dollars," rejects "the savage theory of possession" and suggests that "telepathy *à trois*" may perhaps be made to suffice.] **F. C. S. Schiller.** 'On some Philosophic Assumptions in the Investigation of the Problem of a Future Life.' [A theoretical paper. Postulates 'fundamental identity between our own and any other' world; hence psychical continuity, and in spite of this a dissociation which is psychologically explicable. An "idealistic experientialism" throws light on the inconclusiveness of the phenomenon of 'death' and rejects attempts to settle the question *a priori*. **Harlow Gale.** I. 'A Study in Spiritistic Hallucinations' in which the subject's honesty was above suspicion, and II. 'A Case of Alleged Loss of Personal Identity' in which it was not.] Notes and Reviews.

REVUE NÉO-SCOLASTIQUE. No. 23. According to **D. Nys** ('Étude sur l'Espace'), the *internal* space occupied by a body is, from the ontological point of view, identical with concrete extension, and thus its essential functions are to extend the material mass, to limit its volume, and to attach it in an exclusive manner to a definite place. On internal place, as on their foundation, are based all those relations of distance which, in their aggregate, constitute real space. **P. de Munnynck** ('L'Hypothèse scientifique') agrees with Ostwald in holding that a causal hypothesis is never proved in the proper sense of the word. Such an hypothesis is neither true nor false. It is simply good or bad, useful or harmful, according to circumstances. St. Thomas would seem to have been of this opinion, for in the commentary on Aristotle's treatise *De Caelo et Mundo* he says: "The suppositions of astronomers are not necessarily true. Nor are they to be regarded as necessarily true even when they explain the facts of observation, for it may very well be that at some future time an explanation equally satisfactory, though as yet quite undiscovered, may present itself". **G. de Craene** ('La Connaissance de l'esprit') maintains that though, by means of that faculty of abstraction which enables us to apprehend the essence or nature of bodies apart from the notes which characterise it in individual bodies, we may, up to a certain point, place ourselves in relation with things immaterial, nevertheless it remains always true that material things constitute the proper object of human thought. From this it follows that our idea of spirit or immaterial substance is a purely negative idea. **N. Kaufmann** ('La Finalité dans l'Ordre moral'), following Aristotle and St. Thomas, argues (1) that the perfection of the rational nature of man is the immanent end of moral activity; (2) that the rational nature of man is the norm and law of moral activity. Reason recognises the nature of man in all its relations, and, when it is sound (λόγος ὀρθός), it decides rightly as to what is in harmony with that nature, and thus constitutes the norm of conduct; (3) that the rational nature of man is the basis of virtue, and, since it tends towards its own perfection as its end, the principle of finality. No. 24. **P. de Munnynck** ('L'Hypothèse scientifique,' *suite et fin*) who, in a previous number of the *Revue*, had contended that hypotheses are not true in the proper sense of the word, inasmuch as they have no rigorously logical connexion with fact, now upholds the usefulness of these hypotheses. From the psychological standpoint, their usefulness is great since they gratify the natural instinct of the reason to seek for causes, an instinct which had been artificially repressed during the processes of mere observation. But, besides this subjective, they have also, as is obvious, an objective value, seeing that they contribute largely to the progressive conquest of the secrets of nature. For their objective usefulness it is necessary however that they should be simple, representative, *i.e.*, that they should appeal to the imagination, comprehensive and free from opposition to any established fact. **N. Kaufmann** ('La Finalité dans l'Ordre moral') continuing his studies of finality in the moral order, as set forth in the writings of Aristotle and St. Thomas, maintains that in the moral perfection of human nature there are three degrees, and, corresponding with these three degrees, three tendencies of human nature. (1) The individual man possesses, by virtue of his nature, a certain fundamental perfection which nature strongly urges him to preserve and develop. But (2) man in isolation cannot fully realise the imperative necessities of his nature. He needs for their fulfilment the aid of human society by means of family ties, association with those of his kind, and relation to the State which is the most perfect of societies. To this need corresponds the social tendency. But (3) the greatest perfection of man's is the beatitude which results from union with God, and to this alone man's nature tends not as to a means, but as to its ultimate end. **D. Mercier** ('La Notion de la Vérité') accepts the traditional definition of logical truth, *viz.*, the "agreement of thought with reality" but insists that "thought" in this connexion primarily stands for judgment, while "reality" primarily stands for the objective identity of the two terms of the judgment, and only secondarily for the objective reality of each of the two terms. **E. van Rocy** ('Le Kantisme et la Theologie Protestante') in an article that is too brief to be an adequate treatment of its subject, maintains that Kant has formulated in their extreme consequences the principles of Protestantism.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xxii., Heft 3. **M. Ettlinger.** 'Zur Grundlegung einer Æsthetik des Rhythmus.' [We may approach the study of rhythm formally, asking how rhythmical art-forms are constituted; or we may approach it psychologically. The latter is the correct way. For there are no pure rhythmical art-forms; rhythms have to be 'given' by some one, and there is no instrument for their measurement; and the reduction of rhythm to time and intensity is unsatisfactory. (1) Subjective rhythmisation. The series of sounds is not an objective unity: sensation alternates with 'empty' times. Critique of Wundt's theory of tense and relaxed expectation. What we actually have is a continuous, pleasant feeling of activity or tension, varying only in concentration. It is an objectified feeling, *i.e.*, a feeling of æsthetic sympathy. The peculiarity of the rhythmical structure is the recurrence of groups within a whole—not the repetition of simple impressions. As the strokes come, we have two rival tendencies—the one holding us back, the other pointing us forwards. The rhythmically minded hearer escapes the dilemma by putting life and effort into the series; there is a movement onward, not a mere temporal sum of separates. 'Inner accentuation' shows the action of the secondary, inhibitive tendency; the unaccented terms show the primary movement. The latter is what carries the feeling. *Cf.*, Lipps' theory of the geometrical optical illusions. (2) The objective causes of rhythm. These are intensive relations; the duration of the sensations; the mode of their succession. A fourth factor, qualitative difference of sensations, is of great importance only in music. The various causes may function vicariously, though they have not the same value for rhythmisation. (3) Analysis of the rhythmical art-forms and explanation of their pleasingness. The equipollence of rhythmical groups lies in the fact that in all alike there is accomplished a complementary suppression and restoration, no matter what the number of terms, time, intensity differences, etc., may be.] Besprechungen. **Kiesow** on Rollett's 'Beiträge zur Physiologie des Geruchs, des Geschmacks, der Hautsinne und der Sinne im Allgemeinen'; **Külpe** on Baldwin's 'Die Entwickelung des Geistes beim Kinde und bei der Rasse'. Literaturbericht. Bd. xxii., Heft 4. **B. Erdmann** und **R. Dodge**. 'Zur Erläuterung unserer tachistoskopischen Versuche.' [Detailed reply to Wundt's criticism (*Phil. Stud.*, xv., 287) of the authors' 'Untersuchungen über das Lesen auf experimenteller Grundlage.'] Besprechung. **T. Ziehen**: 'Kritischer Bericht über wichtigere Arbeiten auf dem Gebiete der Physiologie des Centralnervensystems der Wirbelthiere'. Literaturbericht.

PHILOSOPHISCHE STUDIEN. Bd. xv., Heft 3. **W. Wundt.** 'Zur Kritik tachistoskopischer Versuche.' [There are six requirements of the tachistoscope. The stimulus must be so short that eye-movements are precluded; it must be so small that direct apprehension of the whole is possible; the illumination of the exposed surface must be uniform; favourable adaptation of the retina must be secured; persistent after-images must be avoided; the time of exposure must not be long enough for the attention to wander from part to part of the field. Dodge and Erdmann have paid almost exclusive regard to the first three of these.

As philosophers and psychologists they have taken account of psychological and of external physical conditions; but they have neglected the physiological intermediaries.] **Z. Radoslawow-Hadji-Denkow.** 'Untersuchungen über das Gedächtniss für räumliche Distanzen des Gesichtssinnes.' [Survey of previous literature. Apparatus and method. Results: memory decreases with increase of time interval, its keenness being approximately proportional to the logarithm of the time. Factors making for individual differences are: eye-measurement; practice; the dependency of the liminal value upon the ideal and the absolute memory (the memory for a just noticeable difference, and the ability to cognise differences that transcend a certain magnitude, after the lapse of times of any length, respectively); the magnitude of the minimal change; fluctuations of attention, periodicity of the memory function, secondary conditions accompanying a too short interval; disposition, fatigue (as affecting the mean variation). Experiments with filled intervals (auditory or visual impressions, reading). Discussion of special points: eye-measurement; the ideal and the absolute memory (the curve of actual memory limina is shown, very ingeniously, to lie between the curves of the ideal and the absolute memories, the former of which is never realised, and the latter only within limits and under conditions); practice; associative relations and disturbances in reproduction; the overestimation of the distance of comparison; observation times; reproduction times. Theory: discussion of observation and reproduction, in the light of the experimental results. The betterment of memory under distraction, and its interpretation in terms of avoidance of fatigue; the intermittent character of observation; the part played by feeling in reproduction.]

Archiv für Systematische Philosophie. Bd. vi., Heft 1. **A. Müller.** 'Die Metaphysik Teichmüllers.' [Expounds Teichmüller's account of the concept of *being*. Teichmüller distinguishes two kinds of being: (1) Ideal being, which is represented by the copula "is" and answers the question "what?" This ideal being has no temporal implications. (2 Real being, which is represented by the conjunction "that" and by the existential use of the verb "to be". Temporal distinctions as expressed by grammatical tenses belong only to real being. Ideal being belongs to the object of consciousness as such. Real being belongs to psychical activities or processes. To complete the account of being we must consider the union of ideal and real being in conscious life. They are embraced and combined by the "ego". To the ego, as such, belongs a third type of being, which is presupposed in ideal and real being. This is called by Teichmüller "substantial being". The article proceeds to give an interesting account of the way in which the "ego" comes to the knowledge of "substantial beings" other than itself.] **L. Goldschmidt.** 'Kant's "Widerlegung des Idealismus".' [Defends Kant's consistency in the two editions of the *Kritik* against Kuno Fischer.] **E. Bullaty.** 'Das Bewusstseinsproblem.' [The antithesis of a subjective inner and an objective outer world is an antithesis which only exists in a consciousness that comprehends both. Both are phenomenal; they are known only in contrast to each other, and derive their whole meaning from this contrast.] **Paul Natorp.** 'Bericht über deutsche Schriften zur Erkenntnistheorie aus den Jahren 1896 bis 1898. [Deals especially with v. Hartmann's *Kategorienlehre*.]

Vierteljahrsschrift für Wissenschaftliche Philosophie. **Eugen Posch.** 'Ausgangspunkte zu einer Theorie der Zeitvorstellung.' Sechster Artikel. [Maintains the theory of time as merely subjective form.

Apart from reminiscent consciousness the time series has no existence.] **Bastian Schmid.** 'Aus dem Seelenleben der Insekten.' [Favourable comparison of Wasman's work with those "evolutional" psychologists who rush into anthropomorphic interpretation in their eagerness to establish kinship between the human and animal mind. Most actions of animals are explicable by association, though rudiments of Conception and Judgment are also present.] **C. Siegel.** 'Versuch einer empiristischen Darstellung der räumlichen Grundgebilde und geometrischen Grundbegriffe mit besonderer Rücksicht auf Kant und Helmholtz.' [Criticises Kantian doctrine. Kant's first two arguments, which are meant to show that space is *a priori*, really show that it is a concept and not an intuition, and his last two, which are meant to show that it is not a concept, really show that it is not *a priori*, but empirical. Account of the formation of geometrical concepts by the idealising of perceptual experience. In the idealising process a decision is made between alternatives which perceptual experience leaves open because it is not exact enough to select one rather than another. The alternatives selected by the Euclidean Geometry are the most simple and convenient. But others are possible. The space in which physical process takes place may belong to a non-Euclidean type. All that experience shows is that within the limits of observation it cannot be distinguished from Euclidean space. The article concludes with a criticism of Helmholtz's position.]

PHILOSOPHISCHES JAHRBUCH. Bd. xii., Heft 3. **I. Straub.** 'Kant und die naturliche Gotteserkenntniss.' [This is the first of two papers, in which the writer, after noting that Kant's division of the proofs of God's existence into Ontological, Cosmological and Physico-theological, is inadequate, admits that the Ontological proof is worthless, but defends the Cosmological proof. Kant's argument is vitiated by his false conception of a cause as a synthetical *a priori* idea, and his exposition of the proof a mere caricature. His attempt to reduce it to the Ontological proof shows that he never understood it.] **E. Rolf.** 'Moderne Anklagen gegen . . . Sokrates, etc.' [In conclusion, the writer, with certain limitations, upholds the high morality of Aristotle, and his doctrine of God and the soul. Plato is wrongly accused of Pantheism, and was a strong believer in the soul's immortality. And Socrates, though his systematic scepticism makes him at times speak doubtingly of God and the soul, may be proved by decisive passages to have believed in both.] **I. Bach.** 'Zur Geschichte der Schätzung der lebenden Krafte' (concluded). [The writer expounds Newton's conception of space as the immensity of God, maintained by Clarke against Leibniz, and goes through the various phases of the controversy. Newton's idea of a *tempus absolutum* (apart from movement) was also contradicted, and eternal time shown to be a contradiction in terms.] **J. Mausbach.** 'Zur Begriffsbestimmung des sittlichen Gutes.' [Whether moral goodness consists in its being a progress towards happiness, is a question in debate between the writer, who denies, and Dr. Cathrein, who affirms it. In this, the first of two papers, Dr. Mausbach proceeds to show that his opinion agrees with that of Aquinas and Suarez. All morality consists in doing the will of God, independently of the happiness which results therefrom.]

XII.—NOTE.

MR. MACCOLL'S QUESTION ON P. 144 OF *MIND* FOR JANUARY, 1900.

I answer Mr. MacColl's question not for his information but my own. I have much admired his clear and useful system of notation for Symbolic Logic, yet I fear that I must have misunderstood something in his way of working it, and I write this answer in the hope that if there is a mistake I may discover where it lies.

Query. Whether the implication *If it is probable that A is certain it is certain that A is probable* is always true.

It seems to me that while the fact may be so the implication is never valid, that is to say, you might state a case in which it was probable that A was certain and also certain that A was probable, but in order to ensure the truth of the latter statement something more would necessarily be assumed than was contained in the first.

It is probable that A is certain is quite consistent with *it is possible that A is false* and even with *it is possible that A is impossible.* That a thing is probable means that more than half the chances are in its favour, but the other chances may be of any kind, unless it is expressly stipulated that some chances are excluded. Let ten chances make A certain, one make it false and one impossible, then it is probable that A is certain, but for all that it may be false or impossible.

I do not see how you can ever under any circumstances infer certainty from probability.

It would clear my thought very much if I could put all possible cases in the Symbolic Notation, but this I cannot do, because as I look at it the two kinds of certainty, probability, etc., ought to be more thoroughly separated than they are by the method of indices. It should be shown that they are always to be kept separate and not mixed in working, and this is not done when they are merely written one after another. A is certain, means either that A is certain in itself, that is to say, is determined by its causes, so that A, if it is an event, either has happened already and so is determined, or if still future is certain to happen, or else it means that the data at my disposal make me certain of it. Now suppose for the moment we put the indices which mark these certainties on opposite sides. If there is to be an eclipse to-morrow, then it is certain, that is to say causes already in existence determine the event. Call this A^{ϵ}. If I see the fact stated in a reliable Almanac then I am certain of it. Call this ${}_{\epsilon}A^{\epsilon}$. I am certain that A is certain. But say that a friend of doubtful accuracy tells me that he has seen the statement in the Almanac, then ${}_{\rho}A^{\epsilon}$, it is probable that A is certain; but is it certain that A is probable? By no means, for knowing the facts I say, $A^{\epsilon}+A^{\eta}$, An eclipse to-morrow is either certain or impossible. Other cases might be stated, but they would suggest another alteration in the notation and this might not be admissible.

Now all this appears to be so plain and evident that I am afraid I must have in some way or other mistaken Mr. MacColl's meaning, and if so I would be very glad to know where.

J. N. SHEARMAN.

NEW SERIES. No. 36.] [OCTOBER, 1900.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I. PRAGMATISM.[1]

BY W. CALDWELL.

THERE has recently appeared as one of the publications of the University of California (a society whose activity has already resulted in publications[1] of value to philosophy) a pamphlet by Prof. James, entitled *Philosophical Conceptions and Practical Results*, that has "the uncommon merit of being its author's chief or only express treatment of the question of philosophical method".[2] In what follows I intend to keep in view the justifications as well as the limitations of the point of view therein termed *Pragmatism.* I welcome the very expression not only as giving a name to a point of view revealed in this pamphlet and in that important volume of essays called *The Will to Believe*, but as characterising to some extent a few of the various tendencies of what is being called by critics[3] as well as by apologists[4] the "New Ethical Philosophy". I have elsewhere written upon this *so-called* new "ethical" philosophy under the title of "Philosophy and the Activity Experience"[5] indicating thus by my very title as well as (I hope) by my conclusions that I prefer on the whole to think of the *use that philosophy may make of certain facts* that have been emphasised and re-emphasised by recent psychology and epistemology *than of a new philosophy.* It is at once true that every age or generation may be said to have its characteristic philosophy, and yet at the same time that there is throughout the ages *only one philosophy* or metaphysic—the science of the categories or of the points of view from which the world may be regarded. Philosophy is continually enriching itself in a *material regard* by including within its synthesis the accredited discoveries of science and of scientific method, and is a *formal regard* by the elaboration of a greater internal coherence between its different parts or doctrines, and between these doctrines and the logical whole of which they form part. For example, a whole realm of fact and a whole realm of theory have been opened up in the present

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[1] Read (in part) before the American Psychological Association at their last annual meeting, at Yale University, 28th-30th December, 1899. Several of the papers of this Association, of the last two or three years, have reflected an interest in the question of the relation of *non-rational* (emotional and volitional) to *rational* (intellectual, conceptual) factors in the formation of opinion and belief, and of the relation of *theory* to *practical procedure* in both logic and metaphysic—an interest to be associated, of course, with (among other things) the reception accorded (in philosophical as well as in general literature) to recent writings of Mr. G. H. Romanes (*Thoughts on Religion*), Mr. Huxley (the *Romanes Lecture*, with its sharp opposition between the moral will and natural law), Mr. Arthur Balfour, Prof. Andrew Seth, Prof. William James, not to mention their intellectual associates in other countries such as Fouillée and Brunetière and some of the French writers on moral and social psychology, and in Germany Sigwart and Simmel and Deussen, and Eucken, etc. At the 1897 meeting (at Cornell University), Prof. J. G. Hibben of Princeton read a paper upon Mill and Romanes (regarding the formation of opinion), and the interest excited was such that, at the suggestion of Prof. James Seth (then of Cornell) the general question of the relation of *Will* to *Belief* was made the leading topic for discussion at the New York meeting of 1898. The *International Journal of Ethics* for January and April, 1899 (in an article by Prof. Dickinson Miller, and a discussion by H. Rutgers Marshall and the present writer) and the *Proceedings of the Association* reflect and publish some of the opinions brought forward on that occasion. Meantime the manifesto of Prof. James appeared, of which (for it has an interest and importance out of all proportion to its size and scope), a consideration is

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attempted in this article. Some of its ideas are mentioned by Prof. Watson in the *International Journal of Ethics* (July 1899, "The New 'Ethical' Philosophy"—an article professing to be occasioned by my article in the same Journal for July, 1898, on "Philosophy and the Activity Experience"), but are not treated with the same fulness as are the ideas of Mr. Balfour and Prof. A. Seth.

[1] To wit *The Conception of God*—a discussion by Prof. Royce and others, and Prof. Watson's *Christianity and Idealism.*

[2] *Philosophical Review*, March, 1899.

[3] *E.g.*, by Prof. Watson, in the article mentioned in the first footnote.

[4] See *e.g.*, Discussion in the *International Journal of Ethics*, January, 1900, by Rev. Jas. Lindsay.

[5] I do not wish to be understood as drawing any such absolute distinctions between an older and a newer idealism as Prof. Watson and Rev. Jas. Lindsay would seem to suggest.

century, that enable philosophy to overcome at least partially that Dualism between Reason and Will with which Kant left us in his two great *Critiques*, although that Dualism still survives in the case of those who seem to think that they can save the reality of some important facts (*e.g.*, *religious experience*, or *social progress*) by attempting to put them on a supra-rational or anti-rational basis, or in the case of some others who seem to think that they render philosophy service by insisting upon the difference between philosophy proper (or metaphysic) as an explanation of the world for the *intellect*[1] and a *common-sense* (?) account of the world as we apprehend it in our practical experience—overlooking altogether the fact that has recently been so completely re-demonstrated by Mr. Bradley that: "*The mere intellect has shown itself*

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[1] There is a trace of this sharp distinction in Prof. Watson's article, although he is careful to guard against misinterpretation. He is quite right in insisting that philosophy is not experience but the *theory* of experience, and quite right in insisting upon the difference between philosophy and art and life and religion, etc. But even this line of reflexion may be pursued too far, for I am afraid that Prof. Watson's excessive care to insist that "'truth' is never 'reality,' and 'reality' is never 'truth,'" and that there "can be no philosophy which does not presuppose the reality of which it is the theory" might leave upon the minds of some readers an impression that "reality" is somehow "outside" thought (an idea which he of course would rightly regard as pernicious and fatal, if it is not absurd). I mean that philosophy should profess to be more than a mere study of *truth*, that it should profess to study *reality* and should claim to give the only genuinely objective and universally true statement about reality. The world always will (and its instinct in this cannot be called unsound or impertinent) insist upon its right to take the results of metaphysicians *en bloc* and to test them in the light of the version of reality that they seem to countenance. It still judges, *e.g.* of the English neo-Hegelian metaphysic as giving men a shadowy rather than a substantial account of the real (as giving a "stone" when they ask for "bread")—a criticism that cannot be turned by the assertion that philosophy can never give anything but a *conceptual* analysis of reality. If it cannot, men will reject philosophy, and where then can they go? for nowhere else can they get anything but particularised and limited accounts of reality—statements rather about particular sets of relations in the world than about the world as a whole. It does not (to take an example of Prof. Watson's, p. 431) seem to me "an abandonment of philosophy altogether" to tell people that, "if we are to lay hold upon reality and lift ourselves out of the flux of phenomena, we must do so by a species of assurance different from knowledge" (he here quotes some "ethical" idealist). This last statement might be a perfectly natural corollary of a doctrine of the real (a doctrine that seems to be increasingly obtaining credence), *i.e.*, the doctrine that the real ultimately consists of the *activities* of *personal beings* (or beings destined to become personal). Philosophy is a reflexion upon the world as a whole and upon all kinds of experience, volitional as well as cognitive—even if volitional experience represents something that is *done* rather than *thought*.

incompetent to explain all phenomena,"[1] *i.e.*, that (in the language of Kant as rightly explained by Schopenhauer and Deussen and others) the *mere* intellect always leaves us with the shadow of the thing-in-itself. It is my opinion that in this so-called Pragmatism or Practicalism of Prof. James, despite the contempt that has been poured upon it by rationalistic metaphysic, we may find elements of fact and truth that *with the help of a few assumptions* may be generalised into important philosophical truth—truth not only about the relation of reason to will but about the relation of thought to reality.

I am aware of the various epithets by which Prof. James's "new ethical philosophy" and that of his intellectual associates have been stigmatised, such as Irrationalism, Romanticism, Disguised Scepticism, the Philosophy of Reaction or of Dogmatic Theology, the Philosophy of Authority or of Caprice, Dynamism, Voluntarism, or what not. The justification for some of these terms of reproach is perhaps more apparent in the case of Prof. James than of Prof. Andrew Seth or of Mr. Arthur Balfour, or of A. Fouillée or of Deussen and Eucken and Simmel[2] and others, and it is particularly fortunate for the purposes of our discussion that he should have employed such a blankly utilitarian and flatly commonplace word as Pragmatism to describe his philosophy. Philosophy, it would certainly seem, must be more than Practicalism or Pragmatism —the selection of theories of the universe that enable us to act hopefully and to be better men, although there have always been philosophers like Socrates and Fichte who could not altogether dissociate, in their thinking, philosophy and good citizenship. To be sure, students of philosophy know that all definitions of philosophy and its purposes have their justification: they all may be true under certain presuppositions. And Prof. James is one of the men who know so much about philosophy and its effects upon the human mind that anything he may choose to say about its purpose will be true if we only remember what he means by it. Our discussion however will not be solely devoted to the threading of our way through various more or less tentative descriptions of the purpose of philosophy. The business of philosophy is to explain reality or to discover the truth about the world, and of course the discovery of truth or of the highest reality includes a *methodology*, a theory of the nature of fruitful and unfruitful hypotheses. But Prof. James's Pragmatism is, when we look into it, very much more than the mere practical methodology that it seems to be. It reposes in the last resort on a theory of reality to which, judging from many appearances in contemporary scientific thought, philosophy must more and more have recourse as a basis for construction and system. Let us however outline somewhat definitely and precisely our author's standpoint.

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[1] *Appearance and Reality*, p. 484.

[2] For Simmel see below. Deussen (like Münsterberg of Harvard) is a follower of Schopenhauer in the true sense, in believing that *reality* in "things" and in "persons" is to be found in the *will*. Eucken's well-known ethicalism or humanism warrants us in associating him with James and Pringle-Pattison and Balfour.

I. This, he declares, is an adoption and development of principles laid down, some twenty years ago, by a Mr. Charles S. Peirce, "one of the most original of contemporary thinkers," in an article in the *Popular Science Monthly*, entitled "Illustrations of the Logic of Science". "To develop a thought's meaning," we are told, "we need only determine what conduct it is fitted to produce; that conduct is for us its *sole* [!] *significance*." Or, "to attain perfect clearness in our thoughts of an object, we need only consider what effects of a conceivably practical kind the object may involve—what sensations we are to expect from it and what reactions we must prepare. *Our conception of these effects*, then, is for us *the whole of our conception of the object*, so far as that conception has positive significance at all." And again: "The ultimate test for us of what a truth means is indeed the conduct it dictates or inspires". Or, more pointedly: "The *effective meaning* [what a characteristically American idea this is!] of any philosophic proposition can always *be brought down* [*sic !*] to some particular consequence, in our future practical experience, whether active or passive; *the point lying rather in the fact that the experience must be particular, than in the fact that it must be active*".

After these statements about the nature and essence of Pragmatism, Prof. James proceeds to illustrate its utility as a principle of philosophy by reference to some of its consequences and applications. (1) One of these is that "to be mindful of it in philosophical discussions tends wonderfully to smooth out misunderstandings and to bring in peace". *Cela va sans dire*, although the truth of a philosophy is not proved by showing its value as an *eirenikon*. (2) Another is that two philosophical definitions or propositions or maxims whose practical consequences to all people at all time, are *identical*. This too is but a formal truth or corollary—a novel and useful rendering of Leibnitz's principle of the Identity of Indiscernibles. And (3) another is that the "whole function of philosophy ought to be to find out what definite difference it will make to you and me at definite instants of our life, if this world-formula or that world-formula be the one which is true," it being Prof. James's opinion that all philosophy is but "words, words, words" unless the metaphysical alternatives under investigation can be shown to have alternative practical outcomes, however delicate and distant these may be. I shall deal with this third point immediately in connexion with the sixth. (4) There is, again, the position that the meaning of such philosophical abstractions as the "one" and the "many," and "substance" and the rest of the "categories" becomes clearer when we think of what may be called their practical significance, their working value. "'Substance,' for example, means, as Kant says, *Das Beharrliche*, that which will be as it has been, because its being is essential and eternal."[1] This is something that the philosophy of to-day must learn anew, although it is substantially one of the things that Hegel teaches in his *Logic*, wherein he may be said to prove by his whole procedure the truth of his emphatic declaration that: "The only way to make good any growth and progress in knowledge is to *hold results fast in their truth*".[2] (5) Prof. James, despite the modesty of his pretensions about his pamphlet and its tentative nature, makes little attempt to conceal the fact that with his torch of Pragmatism, with his principle of examining only hypotheses with "vital differences" and "effective meanings," he has found his way to the vision splendid—to the God and Freedom and Immortality, the *Ideentrias*, that lay in the depths of the forest of human experience and human knowledge all but totally concealed by the growths and overgrowths of Naturalism and Materialism. These things make life more worth living, consequently they are true and real. All the world now counts Prof. James *on the side of Belief*, just as it does M. Brunetière or Mr. Balfour or M. Huysmanns or Mr. Kidd, and for very much the same reasons—that both he and they attempt to prove by some philosophy or other the legitimacy of affirming as real the objects of certain practical needs after having shown the unsatisfactoriness of the ignorance or the negations of mere science. As to all this, I have but a single remark. It is no proof of the reality of God and Immortality to say that we *will* these things to be real, unless we can prove[1] by an appeal to fact and to reason that *what we will is real*, or that by *reality* we do mean and can only mean *volitional experience* and whatever is organically related to this.

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[1] This illustration I take from the *Will to Believe*, p. 80.

[2] I use Wallace's translation, p. 145. Readers of the *Logic* will remember another place in which Hegel characteristically insists that even the highest things must be regarded as also the most useful. In Hartmann's *Phänomenologie des sittlichen Bewusstseyns* we can see how metaphysical method may very naturally become a study of theories in the light of their practical consequences. See two articles on Hartmann by the present writer (*Philosophical Review*, September and November, 1899).

(6) There is Prof. James's claim that, if Pragmatism be true, it is after all "English" philosophy and not German philosophy that represents the true critical method, inasmuch as it is the English speaking philosophers who first introduced the idea of interpreting the meaning of conceptions by asking what difference they make for life. This however is a thing that has long been maintained by such penetrating students of English philosophy as Prof. Campbell Fraser,[2] and that was substantiated anew with much ingenuity and discernment by his successor Prof. Andrew Seth[3] in regard to the Scottish criticism of David Hume, but it is none the less valuable to have it so incorporated into our conception of philosophy as to seem a natural admission of a true philosophical attitude. It ought to need no supremely profound insight into British philosophy to see that there, as well as everywhere else in the history of philosophical thought, men have been essentially engaged upon nothing but the one problem of investigating the real meaning for our human experience of alleged ideas and facts and principles and beliefs. It is to me but another version of this truth to maintain, as does point number three,[4] that the proper function of philosophy is the study of the differences to us of the truth or untruth of different world-formulæ. I should prefer to say (as I have indicated) that the business of philosophy is to study reality and to reduce it to its fundamental terms, but then it is nothing against the *pragmatic* view of philosophy *and of reality* (for I shall below insist upon this addition to James's thought) to say that it gives the average man, or the practical man, a view of the function of philosophy that commends itself to his judgment in the same terms that (in

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[1] I shall try below to indicate how this may be and has in a manner been proved.

[2] See his *Britannica* article upon Locke, and also his edition of the *Essay*, and the life of *Locke* in Blackwood's "Classics".

[3] See *Scottish Philosophy*.

[4] *Cf. supra*.

accordance with the tendency of the hour) he uses in speaking of the reality of any other alleged thing. Philosophy will be real to him if it can do something! Well! it can. (7) To the enumeration of the consequences of his principle that are more or less clearly seen by Prof. James himself we may add still another consideration. It is easy to see how the principle of studying the nature of a thing through the conception of its consequences is a way of summing up that transition of human thought with which we are all now familiar—the transition from the scholastic doctrine of Essence to the Dynamism of modern science with its notion of a few different modes of one fundamental energy. It used to be said a few years ago that evolutionists, instead of telling us what things *are*, had a way of invariably trying to show us how they had *become* what they are. We have now, it seems to me, so thoroughly assimilated this tendency into our thinking that we have taken the further step of maintaining that the practical utility of things (of "substances," "organisms," "species," "institutions," "ideas"), their subserviency to the process of universal evolution is their only *raison d'être*—the only reason for their continuing to be what they are. My point now is that this principle of Pragmatism by its very name, if by nothing else, brings home to the minds of students as *a tendency of thought and method of looking at reality* this very process of substituting what may be called Teleology and the doctrine of Functional Utility for what has been called Ontology and the doctrine of Essence and Quiddities. It may not be the only thing that is doing so, but it is at least doing so.

II. The philosophical bases and affinities of these ideas may be more apparent if we think of some facts and tendencies revealed by the science and the criticism of this century with which they may naturally be associated. (1) There is, first of all, the fact so strongly emphasised and so completely exploited by recent psychology,[1] that all cognitive activity is at the same time volitional activity, and that consequently our "intellectual systems," our "sets of ideas"—just like religious beliefs and cults and social customs—must be regarded as competitive action-tendencies whose validity and truth may be demonstrated by their power to survive in the life of the race. "The fittest conceptions survive, and with them the names of their champions," says James.[1] If all this be true, as it undoubtedly is, it is certainly natural to conclude that an important clue to the meaning of a thought may be found—the influence it wields over the life of man, in its relative efficiency or inefficiency. "It is far too little recognised how entirely the intellect is made up of practical interests." Mr. Peirce (to Prof. James the champion of Pragmatism) even maintains that the "*sole* motive and function of thought" is to "produce action and volition" through the intermediary help of "belief"—belief being, in his eyes, only a "stadium" of mental action, and not the goal of thought. This is apt to strike the student of philosophy as going somewhat too far, although a moment's reflexion upon the history of civilisation will perhaps convince us that the persistence (merely as an instinct) of the metaphysical impulse is intelligible only on the ground of its organic connexion with the highest interests of the human race as a whole. I have no intention of confounding the metaphysic of knowledge with the psychology of thinking,[2] but it is simply a most pertinent question whether the reality of that section of metaphysic[3] called *teleology* has not in our day been vitally strengthened by the discovery of the fact that *all thinking is necessarily teleological*—the search for the intermediary steps in a process, the discovery of means to an end or of the relations between certain events and certain other events, the discovery of the relation of "external" events (or of external nature itself) to the world of our activity, etc. The Pure Reason of the early Kantian writers in Germany and in England has been reduced to being simply our power of reflecting upon and analysing the conditions of experience as a whole, *i.e.*, of the nature of the world-process as related to our experience and our action; and we have thus retained the main principles of the doctrine of Criticism while at the same time letting go our hold of the crude psychology of Kant. (2) Biology has gone even farther than psychology in proclaiming that the end and purpose of all thinking, of all brain development and mental contrivance, of all morality, indeed, is action and evolution. In its eyes, as in the eyes of sociology, the supremacy of philosophy and the arts and science, consists in the fact of their having raised man to his present position from the condition of the animal or the subconscious man. We shall, however, again face this fact in thinking of Prof. James's conception of the function of philosophy as the selection of "vital hypotheses" and of his implicit claim that truth itself is not absolute but relative.[1] (3) It has been discovered by social psychology that the adoption of the social standpoint, the imitation (even before we can understand them) of the habits and customs and "reactions" of other people, is demonstrably necessary to the mental development of the individual.[2] It is thus no new thing for us to adopt intellectual points of view and mental attitudes that have come to us, first of all by way of practical exigency or unconscious natural "suggestion". We have from childhood been compelled to use our intellectual powers to imitate, and devise means to the execution of "reactions" that are suggested to us by our associates. There is already in vogue a way of writing out the history of philosophy, the history of leading ideas about man and the universe, from the standpoint of the moral and social needs of men at different times and places.[3] (4) The logic of science may be said to afford a certain confirmation of the basis of Pragmatism. "The truth at which scientific thought arrives," says Clifford,[1] "is not that which we can ideally contemplate without error, but that which we may act upon without fear; and you cannot fail to see that scientific thought is not *an accompaniment or condition of human progress*, but human progress itself." Or Dr. Carstanjen of Zurich in an article[2] upon the philosophy of Avenarius, "The presupposition of every science . . . must not only be theoretically correct in itself, it must also agree both in itself *and in the consequences to be deduced from it*, with practical life"—words that only too truly express the principle upon which Avenarius works out his conception of the nature of philosophy by determining its relation to human effort. Or, as Mr. Peirce[3] puts it: "The opinion *which is fated to be ultimately agreed* to by all who investigate it is what we mean by the truth." This sentence if conceived in its broadest possible significance, if writ "in large letters" as a Platonist would say, would be true of even philosophy itself, for philosophy must certainly be able to make a synthesis of the truth of science with the realities and tendencies of human action.[4] Metaphysic, we might say, is nothing if not practical; it is the one science that goes to work without any presuppositions, the one science that endeavours to find out what things really are as distinct from what they appear to be from particular or prescribed points of view. It would somehow always seem to be part of the duty of the metaphysician to insist, as does Simmel[5] in a recent article, that the separation

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[1] *E.g.*, by Baldwin and Stout and others—referred to by me in more detail in the July number of the *International Journal of Ethics* for 1898. The fact that intellectual development is a continual growth in motor accommodation and in practical inventiveness is, to my mind, brought out more fully by Baldwin (the two volumes on *Mental Development*) than by any one else. See an article on his *Social and Ethical Interpretations* by Prof. Dewey, in the *New World*, September, 1898, and one by me in the *American Journal of Sociology*, September, 1899.

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[1] *The Will to Believe*, p. 93.

[2] *I.e.*, the question of the necessary categories of knowledge as knowledge with the fact pointed out, *e.g.*, by Dr. Stout in the words "simple attentiveness tends to pass into conation," or by Sigwart (*Logic*, vol. ii., pp. 548-549), "the ultimate basis of all the mental activities, for the right conduct of which we seek a clue in methodology, is a will which sets below itself definite ends; and to this is due the motive force which impels us to investigation, while the most general principles of the investigation are derived from the ends pursued by it". I have such faith in the reality of metaphysic that I believe its positions to be good irrespective of the psychology of the discovery of truth by the individual. On the other hand the wise metaphysician will never care to philosophise in ignorance of certain accredited facts, say those of biology and psychology about the utility and tendencies of knowledge.

[3] See my *Schopenhauer's System in Its Philosophical Significance*, chaps. iii., iv. and ix.

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[1] See the reference to Simmel, below.

[2] *Cf.* Mr. Balfour's perception of the importance of social relations and social "reactions" to the development of the religious consciousness. . . . "Religion works, and to produce its full results, must needs work through the agency of organised societies. It has therefore a *social side, and from this its speculative side cannot, I believe, be kept wholly distinct,*" *Foundations of Belief*, p. 259 (italics mine).

[3] The names and works of Profs. Eucken and Ziegler and Höffding and of Mr. A. W. Benn and others, suggest themselves at once as proof of this tendency, not to mention the recent important prize essay (published in the current numbers of MIND) by Dr. F. Tönnies, which insists so thoroughly on the influence of the social will on the formation and differentiation of metaphysical conceptions. Dr. A. Kenyon Rogers of the University of Chicago has recently written a *Brief Introduction to Modern Philosophy*, that openly professes to connect the "presuppositions of philosophy" with our "ordinary beliefs and practical needs". Doubtless a thorough knowledge of the life of the Middle Ages would reveal the

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connexion between the "vermiculate discussions" of the Schoolmen and practical needs.

[1] *Lectures and Essays* ("Aims of Scientific Thought"), p. 109 (italics mine).

[2] MIND, October, 1897, p. 453.

[3] *Pop. Scien. Monthly*, 1878, vol. xii., p. 300.

[4] This is obviously Prof. Sidgwick's idea of the work of philosophy, as expressed in a recent article ("The Relation of Ethics to Sociology") in the *International Journal of Ethics* (October, 1899). Philosophy he therein describes as a contemplation of the "whole of human thought —whether concerned with *ideals* ['of what ought to be'] or empirical *facts*" ["about the actual relations of men regarded as members of societies"]. And Prof. Ladd's when he says (*Theory of Reality*, p. 21), "What is true of the sciences which deal with things is equally true of the sciences which deal with minds, or with both minds and things. They all both assume and demonstrate the truthfulness of certain conceptions, in their application to the concrete realities with which they have to deal."

[5] "Über eine Beziehung der Selectionslehre zur Erkenntnisstheorie," *Archiv sys. Phil.*, Bd. i., Heft. 1, p. 34.

of conceptual truth from practical results rests upon prejudice, and that true ideas are really successful ideas—ideas that prove themselves fruitful.

(5) Of course it is now only too well known that so far as the "legitimacy of the argument from consequences" is concerned, Prof. James's Pragmatism may be associated with the positions of Prof. A. Seth and Mr. Arthur Balfour, both men in whom this agreement is connected with a general metaphysic of reality and a general theory of knowledge. "The *ultima ratio*," says Prof. A. Seth,[1] "of every creed, the *ultima ratio* of truth itself, is that it *works;* and no greater condemnation can be passed upon a doctrine or system than that if it were true *human life as it has been lived by the best of the race* would cease to be reasonable." And again, "The ethical life has also its certainties and postulates; and a man *is not necessarily evading truth*, when he rejects a creed, because it has no place within it for these postulates of the ethical or spiritual life which are to him *the most fundamental certainties of all.*[2] Nor is he convicted of prejudice, because he avows that the defence of these postulates is the motive of his speculative inquiry." And as for Mr. Balfour, the whole of his *Foundations of Belief* may be regarded as an illustration of what in the spirit and in the letter of Prof. James's pamphlet we may call the "definite differences" that result from the truth or the untruth of different systems of thought. (6) Lastly it might doubtless be said that Pragmatism is manifestly in harmony with the sound instinct of mankind to judge of any tree or growth by its fruits or absence of fruits. This instinct is so deeply rooted in human nature that there never is a time when some form of Criticism, be that literary or artistic or philosophical, does not proceed upon the idea of its essential soundness and rationality.

Enough has perhaps been said to show us that we may (I think) accept Pragmatism as a real enough thing, *i.e.*, a real enough thing in the light of what it purports to be and evidently is (to a large extent) and in the light of the philosophical and scientific and common-sense tendencies with which it can most naturally be associated, and in the light of the many important conclusions to which it leads. Taken at its face value, taken as a working principle, it is good *as far as it goes.* Nearly everything that it represents is good and valuable and ought certainly to be part of a true philosophy of life and reality. Again and again, however, we have found that it seems to repose upon a certain view of the "real" that cannot be even described without examining many of the assumptions of Pragmatism.

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[1] *Man's Place in the Cosmos*, p. 307 (italics partly mine).

[2] *Ibid.*, p. 308.

III. That Pragmatism is impossible as a working philosophy without certain important assumptions may be apparent from some of the following reflexions. (1) To argue from our actions or "reactions" to the existence of what we think to be their necessary conditions or "objects" presupposes at least, as Mr. Balfour[1] puts it, "a harmony of some kind between our inner selves and the universe of which we form a part". It involves what Scottish metaphysicians of the common-sense school would term an argument "from thought to being," or Cartesians an inference from the *ordo idearum* to the *ordo rerum*. (2) It also involves a thorough-going criticism of our needs and desires and imagined satisfactions. The ideas of God and Immortality may be on a certain and by no means uncommon interpretation of things merely some of the many fictions that have no validity on their own account, but merely a utility or service in view of "the life that now is"—the tendency, *e.g.*, to foster prudence or altruism. Of these and similar considerations Mr. James makes no explicit recognition. (3) The Argument from Consequences presupposes that we know all, or nearly all, the effects that the truth of a given theory about the universe might conceivably have upon ourselves, and also a criterion of desirable and undesirable, good and evil, consequences. Of what kind of consequences would Prof. James have us think in estimating the value of theories? Immortality as the mere continuation, in an infinite straight line, of our individuality or personal identity, means very little to many good and wise people. Nietzsche and others of his ilk write of the utility of wickedness by way of trampling under foot certain anæmic forms of goodness, and Zola has recently praised to the skies the infinite value of mere *Fecondité*. A Renaissance pope used to speak of the good ("definite" and "particular," doubtless) that "this Jewish legend" has done to "us popes". On the other hand it was probably owing to the apparent absence of "definite" and "particular" results, that the scientific friends of J. S. Mill deplored his being drawn for a time to Wordsworth. Is there with Prof. James no criterion of consequences other than their *particularity* and *definiteness* and tangibility? A criterion of consequences is provided, *e.g.*, by the conception of *Justice* in Plato's *Republic* or by the idea of a *Kingdom of Ends* in Kant's *Metaphysic of Ethics;* and these philosophers moreover offer us a metaphysic of being that tends to show how the existence of a moral kingdom of beauty and justice is implied not only in the simplest forms of human association but even in the constitution of External Nature.

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[1] *Foundations of Belief*, p. 247.

(4) The highest form of the Argument from Consequences is, if we think accurately, the argument known in logic and metaphysic as the dilemma. Prof. James might perhaps do well to think of strengthening his philosophy by connecting it with its true theoretical basis. But the strength of the dilemma or of Hypothetical Reasoning or of Indirect Proof lies in the claim to have an exhaustive knowledge of possibilities or alternatives.[1] To know with absolute exactitude and exhaustiveness about the possibilities for conduct afforded by different philosophical hypotheses would imply at least an exhaustive knowledge of the points of view from which conduct and the universe may be regarded. This however implies the Transcendentalism or the Metaphysic of the Categories of which Prof. James has so sorry an opinion. It also implies the existence of ethical norms and conceptions and perhaps the teaching of history and the guiding force of heredity and the principle of continuity. But of all this Prof. James in his practical contempt for *Apriorism* in all its forms takes very slight recognition. (5) It looks like a philosophical error for him to distinguish, as he does, between the future consequences and the past necessities of action, holding that the former alone are of vital and spiritual importance to us while the latter may or may not have had spiritual significance. "As far as the past facts go, indeed, there is no difference. These facts are *bagged* [is not the phraseology too recklessly sportive?], are captured; and the good that's in them is gained, be the atoms, be the God their cause." And again, "Theism and materialism, so indifferent when taken retrospectively, point when we take them prospectively to wholly different, practical consequences, to opposite outlooks of experience". And again, . . . "But I say that such an alternation of feelings, reasonable enough in a consciousness that is pro-

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[1] The whole development of the dilemma as a logical argument seems to me to depend upon the fact that the *alternatives* in a disjunctive proposition (the minor premiss in a dilemma) should always be regarded as exhaustive. They are always such in a true "universe (or sphere) of thought," whatever they may be in a "universe of discourse".

spective, as ours now is, and whose world is partly yet to come, *would be absolutely senseless* [!] and irrational in a purely retrospective consciousness summing up a world already past". Now on what theory of things is it that the future of the world and our future may be affected by ideal elements and factors (God, Freedom, Recompense, Justice) without having been so affected or determined in the past. One of the supreme difficulties of Pragmatism as presented in this pamphlet is that Prof. James often writes as if the world that is round about us were sufficiently explained by the entities and laws of physical science, and as if our moral life were sufficiently explained as a part of the "scientific" order of the world.[1] Then, strange to say, he asks us to turn around and think out the consequences of introducing into this palpably godless and purely mechanical world certain entities and points of view whose bare existence is unnecessary to the world as we know it to be and to have been. Does he not see that from the very nature of the case *nous n'avons pas besoin de ces hypotheses là*—to adapt the words of Laplace to Napoleon. It is true that Prof. James mentions the fact of certain great men like Dante and Wordsworth having throughout their lives lived in the actual consciousness of the reality of a spiritual order, and it is also true that he elsewhere[2] hints at the necessity of including our spiritual and moral reactions in the sum total of real things, *i.e.*, in our very conception of reality. It is also true that he is sometimes simply stating the case for Materialism and consequently describing the world in terms of mechanical and biological categories and at another time stating the case for Idealism and consequently throwing out vivid pictures of the world in terms of the glories of God's providence and of our dearest affections. But (6) this vacillation apart, it is never altogether clear what his own conception of the real nature of the world would be were he called upon to state it frankly and freely. His writings, taken as a whole, may have the incidental effect of making us think of our theories of the *nature* of the world in terms of our theories about the *purpose* or outcome of the world, but he never himself gives a statement of what the world *now is* in the light of what it is *becoming to be.* To do so would obviously imply a philosophy enabling him to establish the "ideal order" as a part of the "real order" of things. Before we can be sure about the consequences *to our experience* of certain theories or of the truth of certain theories it is absolutely necessary to have in our minds a uniformly working conception of what our experience is. At one place he emphasises the fact that the experience by which we test theories and propositions must be *particular*,[1] and at another he seems to assign no limit to the experience that may be ours if we but have the conviction of the reality in the world of certain ideal things. "The notion of God, on the other hand, *however inferior it may be in clearness to those mathematical notions so current in mechanical philosophy*,[2] has at least this practical superiority over them, that it guarantees *an ideal order* [how much better this is than *definite* and *particular* consequences!] *that shall be permanently preserved.*" (7) These very words *inferior in clearness* and withal *practical superiority* are only too suggestive of the difficulties that arise in the minds of metaphysicians in consequence of Prof. James's comparative neglect to give a uniform statement or theory of the real nature of experience and of his neglect to offer us a valid reason for sacrificing *theoretical inferiority* to *practical superiority.* The real question is not, as he puts it: "And how, *experience being what it is once for all* [*i.e.*, godless and 'brutish' and 'short'—how fatal!], would God's presence in it make it any more 'living,' any 'richer' in our sight?" but: "Is there anything Divine about experience as it now is?" for surely if the world is fixed and determined as it is without God, it is supremely idle to bring in anybody or anything to make it different. To do so would also be illogical,[3] for as logicians know men never invent absolutely groundless hypotheses. We must have at least *some* ground in experience for believing in a divinity that "shapes our ends" ere we can logically talk of the theistic philosophy as what Prof. James calls a "vital hypothesis".

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[1] I am aware, of course, that this is an error into which even such a profound philosopher as Kant sometimes fell.

[2] In "Reflex Action and Theism" in the *Will to Believe.*

It would be perfectly in order for Prof. James to attempt by some philosophy or other to show that the Good Life and Goodness may be demonstrated to be the supreme reality and the supreme force of the world, or—to avoid the pitfalls that beset the attempt to insist upon any one thing as more real than any other thing—to be simply the most intelligible,[1] the most fairly and squarely perceived aspect or phase or tendency of reality ; and, consequently, that any philosophy which cannot rise to the perception of the absolute and eternal character (even in this world, *Denn alle Schuld rächt sich auf Erden*) of goodness and of that which makes goodness possible is demonstrably no philosophy. No one, he might say, surely thinks that he *perceives or that he could perceive* such things as atoms or primal unicellular organisms or pure undifferentiated energy. Consequently it would be absurd to explain the world by these fictions, not to mention the immeasurable difficulty of the step from gravitation and cohesion and the war of organisms to moral and social evolution and to the effort to transform the physical basis of life into something intrinsically higher. But contrary to all this, as we read Prof. James's Pragmatism we are never free from the uncanny suspicion that Nature may conceivably, nay, very conceivably overturn all our ideal dreams and ideal polities and systems—for the plain reason that so far as the present is concerned she is at least as real as these things, and so far as the past is concerned, *ex hypothesi* a good deal more real, and that, so far as the future is concerned, we have as yet no rational theory of the possibility of its being essentially different from present or past. In other words what we have in Prof. James is a psychological philosophy of action, a statement of some of the ideas that constitute the most potent *stimuli* to action—with, however, the underlying presumption that human volition is so far from being different from physical action and reaction that it is by the progress of science being every day more and more closely assimilated[1] to the type of reflex action. "We[2] seem," in fact, "driven to infer a . . . rigid determination of the psychical concomitants [of our actions], to admit with Huxley, 'the banishment from all regions of human thought and activity of what we call spirit and spontaneity'." Thus our "last state," our response to ideas and theories that bid fair to emancipate us from the "bondage" to which we have "all time been subject" as creatures of a purely naturalistic evolution in a purely physical universe, turns out to be "worse than the first" state of an at least *possible* choice between "hypotheses with different practical consequences". The moral life is seen to be but a fugitive dream in the brain of unconscious nature and our spiritual house is left unto us absolutely "desolate"—an edifice all but too light to be dragged to earth by the force of universal gravitation,

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[1] *Cf. supra*, sec. i. One of the worst phases of the Materialism of to-day is its impossible faith in the actuality of certain isolated *particular* things. The more resolutely we search for the indubitably *particular* and the merely individual, the more surely do we find that nothing exists unto or for itself. As Mr. Bradley said long ago (*Logic*, p. 63): "*It is an illusion to suppose that by speaking of* '*events*' we get down *to real and solid particulars, and leave the region of universal adjectives*".

[2] Italics mine.

[3] As Mr. Bosanquet puts it (*Logic*, i., 287), "Every hypothetical judgment is affirmed only within an actual system".

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[1] I mean that the reality of the active intelligent self is after all much more intelligible than the reality of any so-called external thing, for "things" somehow "go to pieces" in our hands as we study them either from the common-sense or the scientific standpoint. Or, as we say, so many "contradictions" (Herbart is quite right in making philosophy start at this point) arise in regard to their reality and function (utility) and "independence" that we are soon driven into interpreting (and this "interpreting" is not the mere analogical argument it is sometimes taken to be) them in terms of the reality of the active self that we know in ourselves. And as to the most real thing about this "self" of ours, we soon come to the conclusion or philosophical commonplace expressed by a recent writer on metaphysic thus: "The highest and worthiest selfhood with which man has acquaintance is the Self that is self-active in pursuit of the ideals of knowledge, of conduct, of art, and of religion"—Prof. Ladd, *Theory of Reality*, p. 399.

εἴπατε τῷ βασιλῆϊ, χαμαὶ πέσε δαίδαλος αὐλά.

IV. It might seem at first sight impossible to supply the theory of reality with which the method of Pragmatism must be associated in order to become part of a true philosophy, without laying down, at least in outline, a whole scheme of constructive philosophy. It is however unnecessary to think of anything so vast and so difficult. No one who studied modern psychology to any purpose has much difficulty in perceiving and grasping the truth of the proposition that from the psychological standpoint reality means simply *that which is in verifiable relation* to our active and sensitive life.[3] Similarly, any one who has persistently studied and reflected upon the "Mechanical Theory" as a doctrine of reality has become convinced that (in the language of Prof. Jas. Ward): "It is far truer to say that the universe is a *life* than to say that it is a *mechanism*". And, as for biology and the evolution theory, an examination of their logic and philosophy, an examination even of their elementary conceptions (*cell, e.g.*, and *organism* and *reflex action* and the *formation of nuclei*, and *differentiation*, etc.), will convince any fair-minded person of the impossibility of proceeding far in their domain without the help of teleological assumptions, *i.e.*, without the help of theories about the relation of facts and processes *to their consequences*, or the relation of elements to their wholes. Then, again, the very logic of science, as has been suggested above, shows us that all scientific laws and hypotheses are teleological in the sense that they have to do with *purposes*, (*a*) because they are *hypotheses* and because "every[1] hypothesis is a means to an end, a theoretical organon that *may or may not work*," and (β) because all hypotheses rest upon the supreme hypothesis that Nature will conform to the conditions of our intelligence. All of these considerations are becoming increasingly evident to men of science who are at all aware of the presuppositions and functions of science, and who know enough about the history of science to see that the idea of *substance*, the idea of different substances in different individual things and the idea of a substance is general for the whole universe, flies before us as we contemplate it or as we investigate its alleged reality, and is actually *disappearing* into the idea of *causality* or the conception (or fact) of measurable energy or modifiable life-process. In particular they are all perfectly well known to Prof. James and receive from him the most explicit kind of recognition in his writings.[2] Why is it however that he cannot, as it were, generalise these results of observation and reflexion into a philosophy of the real on the strength of which as a basis he might maintain, *re* Pragmatism, that it is the most natural thing in the world to consider the consequences of theories as part of their very nature, part of their very *data*, seeing that the only possible aim of all theories is to explain the activity and the evolution that is in process all around us—that is in fact the essential nature of all reality?

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[1] Prof. James represents this assimilation in the essay (in the *Will to Believe*) on "Reflex Action and Theism".

[2] Prof. Ward, *Naturalism and Agnosticism*, vol. ii., p. 6.

[3] One of the most convincing expositions of this truth has always seemed to me to be the chapter on the "Perception of Reality" in the second volume of Prof. James's *Principles of Psychology*.

Doubtless, he might urge, for the reason that it is all well enough to say what reality is for purposes of science or psychology or logic, but that it is quite another thing to say what reality is in itself, *i.e.*, we must be able to prove on independent principles that reality is that which sustains a more or less verifiable and determinable relation to our activity, ere we can reach the highest possible use of the Method of Pragmatism with its ideas of the selection of fruitful hypotheses. But this is exactly what German Metaphysic[3] (let Prof. James but think of its "consequences" ere he speak disparagingly of its "nature"!) from the time of Leibnitz to that of Schopenhauer has enabled us to do; it is this that constitutes its permanent contribution to the thought of humanity. "*Before Kant*[1] *we were in Time;* now *Time is in us*," and so on with Space and Cause and Substance and the rest of the categories. Before the time of Kant our lives were construed as subjected to the limitations represented by these categories; now we see that the whole *idea* of these points of view about *things* is drawn from our consciousness of our mental and physical activity. It is in the writings of Kant and Hegel, in particular, that we find that complete logical justification for considering the necessities and conditions of our active experience as part of the actual texture and nature of what men regard as *reality* for it is they alone who have shown conclusively that the activity of the subject and self or agent is implied in the bare existence of "external" reality. I am further of the opinion that it is only Schopenhauer[2] who has put in our hands that real statement (*viz.*, that *reality*, *Wirklichkeit* is through and through *will*—not merely *life* but *will*) about the nature of reality which enables us to meet the objections of those who rightly refuse to stop at a definition of reality beginning (as do the usual epistemological or Kantian definitions of reality as "*that which* is constituted into an intelligible system by the activity of a synthetic consciousness") with a "*that which*". Reality is not merely *that which* is related in definite and verifiable ways to my thought and my activity, to my experience; reality is will, not blind will (as Schopenhauer seems at first to say) but *will* in any and all of its grades from inertia and gravity upwards through cohesion and chemical affinity and reflex and vital action (nutrition, reproduction) to intended or *motived* and moral action: reality is known to me *directly* in the activity of my own body and "will" (the "body" is simply objectified will, and the "mind" simply internalised will—the 'first realisa-

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[1] Ward, *Naturalism and Agnosticism*, ii., 253 (italics mine).

[2] I am thinking especially of his *Principles of Psychology*.

[3] I am perfectly aware that Prof. James, if his eye should ever happen to fall upon these pages, would in all probability (*i.e.*, judging from his claim that "English" philosophy has rendered German philosophy superfluous) withdraw his attention at this very stage. My only claim upon him would be to think of the Kantian Idealism in the light of its

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effects—particularly that of opening the eyes of so many men all over the western world to a *perception* of the theoretic absurdity of mere materialism.

[1] This is literally true so far as modern philosophy in Europe is concerned, though Indian philosophy had been free from the trammels of Time and Space for generations.

[2] For two reasons if for no other. In him, above all other post-Kantian philosophers, do we find the ultimate origin and the *complete proof* of the ideas (1) that *substantiality* is through and through *causality*, and (2 that we *cannot* think of an "activity" in the outer world save in terms of the "activity" that constitutes our own lives.

tion of a body, etc.," as Spinoza and Aristotle, respectively, saw), for I observe in my body the operation of all physical and chemical and vital processes, and I experience *in my conscious action* that reintegration and redistribution of physical force by moral force which in its higher and its collective forms ("civilisation," "religion," "art,") is literally the spiritualisation of the entire universe. It is thus indeed the most natural thing in the world to study theories in the light of their consequences for the simple reason that *from the very nature of reality* no theory about the real can be anything else than a statement about certain *tendencies*, certain *successions*, *antecedents* and *consequents*, certain *actions* and *reactions*, certain modes of the manifestation of the force or life or will that is in nature and in history. There can *ceteris paribus*[1] be nothing illogical in the tendency to estimate hypotheses by their practical consequences, for the world of reality consists of nothing but happenings and sequences and the manifestations of the struggle for life and the motived or purposeful actions that constitute the moral order.[2]

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[1] *I.e.*, The other *desiderata* about a criterion of consequences or the Idea of the Good, referred to above, being granted.

[2] Of course, as I have indicated, this ontology, this view of reality rests upon (1) the metaphysic of Transcendental Idealism (Kantism) which has as matter of fact reduced the world of "external" reality to (*a*) *phenomenon*, *idea* (sensible idea), representation (*Vorstellung*)—that which is presented (in consequence of the activity of the understanding) to the mind as sensible, intelligible, related, etc., etc., and (β) manifesting *activity*, *will* (force, energy in the broad and in the *real* sense). (To say that the world consists of Will and Idea expresses the ultimate truth and reality of the position of physical science—that the world consists of energy and matter—and at the same time the truth and reality of the position of philosophy—that the world consists of Reality and Appearance. Reality means—in the last resort *will*; just as appearance means *idea* (in Locke's sense) or phenomenon.) But I here put forward this result of Critical Idealism as only the last step in the *cumulative argument* (about reality) that is (in my opinion) afforded us by the positions of Prof. James when taken along with the logical and psychological and scientific considerations to which I have referred. Only if we take this last step can Pragmatism become not only a true theory of reality, but also a true support to that revival of the *anthropocentric* point of view about the world to which the metaphysic of the present seems (in many quarters and in many ways) to be returning. "*As it* [philosophy] *defends the truth of teleology in spite of former abuses of the principle, so it has now to champion the truth underlying the old view which made man the centre of the universe.* . . . Much current thought is *naturalistic* at heart—that is to say, it makes human nature only a part of nature in general, and seeks therefore to explain away the most fundamental characteristics of intelligence and moral life. As against this naturalistic tendency philosophy must be unflinchingly *humanistic*, anthropocentric."—Prof. A. Seth, *Man's Place in the Cosmos*, pp. 60-61.

V. It is to be sincerely hoped that the coming generation of metaphysical philosophers will have lost altogether that feeling of resentment which many thinkers of to-day still cherish against what they believe to be the dishonesty or the thoroughly unphilosophical character of *any* attempt to judge of theories by their consequences or by their influence over the "will". A moment's reflexion will perhaps convince us that David Hume (confessedly one of the purest and freest intelligences not only of the Enlightenment Period but of all time) never doubted that *action*, *human action*, was, after all, *the* thing, *the* entity of which all metaphysic might be regarded as attempting an explanation. It was because knowledge and theory could not justify action that he professed a sceptical theory of knowledge. And there are signs in many other modern metaphysicians that they too *simply cannot* keep purely theoretical inquiries about the nature of things apart from questions of practical necessity. All the world knows that Kant (whose mind is almost an ultimate fact for the philosopher) *could not* and *did not*, however the fact is ridiculed (as by Heine and Schopenhauer and others) or explained away or justified (by Edward Caird, *e.g.*, and Prof. Adamson). As for Hegel, Prof. Ritchie (like many other expositors) has recently[1] been very anxious to prove that he [Hegel] approached *logic* through the study of history. If we turn to Mr. F. H. Bradley whom many of us delight to honour as our modern Parmenides, we find him (partly like Hume) openly confessing that his only reason for treating of such things or topics as "God and Religion" is his *practical inability* to refrain from doing so. "If[2] I have touched on them here it was *because I could not help it*." Why does not Mr. Bradley demand of himself a philosophy of this very fact. Surely there is no fact, no tendency, beneath the level of metaphysical inquiry. Why is it that neither he nor Hume can avoid treating of such perilous matters, or that they both concede that to treat of them at all is defensible only as the expression of an instinct? Evolution teaches us that there would be no such instinct were not "morality and religion" matters of "practical consequences," matter of *real* as opposed to *imaginary* relations between our actions and the behaviour (?) of the universe as a whole. "That a man should treat," says Mr. Bradley, "of God and religion in order merely to understand them *and apart from the influence of some other* consideration and inducement is to many of us [*i.e.*, we

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[1] See MIND, Jan. and Oct., 1899.

[2] *Appearance and Reality* (1st ed.) p. 451.

'English' with our 'Church and State' traditions and customs and society] in part *unintelligible* and in part also shocking." And why not? we ask of Mr. Bradley. It *is* unintelligible because it is *impossible*, and it *is* certainly shocking in so far as it is highly sensational. It may be doubted if any man has ever been able to keep theoretical questions about God and religion utterly divorced from suppositions about the dynamic efficiency of these "entities" to him or to the human race. Indeed, with the anthropology and sociology of to-day matters of God and religion have become so much matters of statement or theory regarding the necessities and actualities of moral and social development that it is almost time to revive some questions about their "structural" or "morphological"[1] in addition to their merely functional significance.

Mr. Bradley confesses that the idea that a man cannot treat of God and religion for theoretical purposes alone has a "personally deterrent" effect on his mind. That is, he will not treat of these things because he will not "set up as a teacher or preacher". There are some of us upon whose minds the idea that God and religion could be understood theoretically (*i.e.*, solely in a theoretical way) has had and still has a "personally deterrent" effect, and we can never hear of any one trying to "theorise" (*i.e.*, in the merely abstract and conceptual sense) God and religion without a feeling of fatuity and aversion. Questions about the reality of God and religion like those about the existence of matter and force and substance and cause and atoms and cells and heredity and continuity and the social "tissue" and the social "organism" and the "one" and the "many" and heaven and hell and purgatory, for that part of it, and Realism and Idealism and Classicism and Romanticism and Impressionism and Divine Justice and Divine Love and a great many other things, never do become clear and tangible and comprehensible until we see that they are largely questions about the reality or the unreality of certain practical tendencies in human experience or in nature or in thought or in human history, etc., as the case may be, or in all of these together.

Pragmatism, then, looked at broadly, is simply the expression, in a phrase, of many important tendencies of the science and the criticism and the practice of our day. It requires however both the Criticism of the Categories and the Theory of the Ideas (as reinterpreted by Aristotle and the Metaphysic of Evolution[1]) to give it form and reality. It is not the one method of philosophy any more than the testing of hypotheses is the one work of science or of philosophy. In other words it is susceptible of a strong defence *not* as a method of philosophy but as a would-be theory of reality, as an attempt at an ontology through the door of a teleology —as an attempt at a theory of the real through a theory of end and purpose and "consequences". Prof. James is trying to show us how reasonable it is to regard things as we are compelled to assume them to be: he ought rather to take the ground that the manner in which we are compelled (by genuine practical and *moral* necessity) to assume things to be disposed is the only possible theory of their reality. This perhaps would be the true Pragmatism.

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[1] This seems to be attempted in the recent important lectures by Prof. Tiele, "Elements of the Science of Religion," *Gifford Lectures*.

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[1] With Plato the *Ideas* represent so many eternal and unchanging types or forms of being. That is, with Plato, *e.g.*, the Idea of a species is absolutely fixed and determined to all eternity. This is not so, to be sure, in evolutionary philosophy when species are regarded as *variable.* The notion of the Ideas may be therefore retained in philosophy as denoting not so much an infinite number of distinct groups or types of things as rather the different *grades* of being (see *supra*) that seem to be constituted by the different manifestations of the cosmic energy or *will* in which we believe reality to consist. *Cf.* my *Schopenhauer's System,* etc., pp. 108, 115.

II.—ON THE CONCEPTION OF ʼΕΝΕʹΡΓΕΙΑ ʼΑΚΙΝΗΣΙʹΑΣ.

By F. C. S. Schiller.

The aim of this article is to rescue from an unmerited obscurity the Aristotelian ideal of Being, to expound its nature, to remove the paradoxes which it seems, superficially, to involve, and, finally, to show that it alone is competent to satisfy the intellectual and emotional demands we must make upon our conception of Being, and so far to redeem philosophy from the opprobrium of terminating in inconceivable mysteries.

In pursuit of this aim I shall trace (1) the historical antecedents of the doctrine, (2) its statement in Aristotle, (3) its consequences, (4) the objections to it, (5) the replies to them, (6) its advantages over the alternative views; and in so doing I shall, I trust, contribute to the removal of several misconceptions which have long been a source of trouble both in science and in philosophy.

I.

The history of thought, like that of politics, has largely been the history of great antitheses which have kept up their secular conflict from age to age. In the course of that history it may often have seemed that the one side of such an antithesis had finally triumphed over the other, but in the next generation it has often appeared that its rival had rallied its forces and restated its position to such effect that the preponderance of opinion has once more swung back to its side. Perhaps the most important metaphysically of these antitheses is that which has at different times been formulated as that between *Γένεσις* and *Οὐσία*, *Ἐνέργεια* and *Ἕξις*, Becoming and Being, Change and Immutability, Process and Permanence, and it will be necessary to cast a rapid retrospect over its varying fortunes in order to appreciate the full significance of Aristotle's doctrine.

It will suffice for this purpose to start with the metaphysic of the Eleatics, taking it as the extremest, crudest, most abstract, and therefore most impressive, representative of what I may call, for purposes of reference, the *permanence-view* of the ultimate nature of existence. In the Eleatics the affirmation of Being took the form of a rigid immutable *Ὄν*, whose uncompromising unity reduced all motion, change and plurality to an inexplicable illusion, and remorselessly crushed out the whole significance of human life. This uncanny Monism was defended with a dialectical ability which has never since been equalled, and Zeno's proofs of the impossibility of motion are still full of instruction for philosophers of all schools.

But in the philosophy of Heraclitus Nemesis overtakes the Eleatics. Heraclitus affirms against them the ultimate reality of Becoming, the unlimited all-pervading *Process*, which unremittingly traverses the *ὅδος ἄνω κάτω* wherein *πάντα ῥεῖ καὶ οὐδὲν μένει.* In spite of the somewhat sinister denial of permanence implied in this addition, Heracliteanism may well have seemed to restore to the universe the life which Eleaticism had made impossible.

But in Plato the pendulum swings back again to the side of *οὐσία.* Rightly or wrongly, he detected in Heracliteanism consequences which seemed to him fatal to the possibility of knowledge, and instead of seeking to determine the actual limits of the Flux and the scientific methods by which to know it, he preferred to reject Heracliteanism and to propound a revised, and greatly improved, Eleaticism. He points out our need of a *ποῦ στῶ*, which is not swept away in the Flux, of a fixed standard whereby to measure and render knowable the flow of Becoming, and in his theory of Ideas he conceived himself to have supplied this demand. In it plurality is recognised in the plurality of the Ideas, united though they are in the Idea of the Good, while the phenomenal world is admitted not to be wholly illusory, being *μεταξὺ τοῦ ὄντος καὶ μὴ ὄντος*, intermediate between the Ideas and the principle of impermanence, the mystery of which Plato seems to have thought he could resolve by calling it the 'Non-Existent'.

In the end, however, the Idea remains the only true reality, and the Idea as such is unchanging Being, out of Space and Time. Hence to call anything, *e.g.*, Pleasure, a *γένεσις* is *ipso facto* to cast a slur upon its reality and to disqualify it for the position of the Chief Good which must be, he thinks, an abiding *οὐσία.*

In Aristotle the tables are once more turned. To Aristotle the real world, *i.e.*, the world whereof we desire an explanation, is after all the world of change in which we move and live, rather than the system of immutable and timeless 'laws' which we devise for its explanation. Hence Plato's changeless *οὐσίαι* seem to him too distant and divorced to explain the world. An *οὐσία* which is not immanent and does not assert itself in the world of phenomena, but remains an inert and secluded *δύναμις*, is lifeless and worthless. Hence the *καθόλου* must be in the world and pervade it; or, in his technical phrase, must display itself in *actuality* (*ἐνεργείᾳ*). Not that Aristotle denies the validity of the considerations which led Plato to frame his conception of *οὐσία*; he denies only its adequacy. The highest conception must be *'Ενέργεια* and not *Δύναμις*, the *actual* functioning of a substance whose real nature is only so revealed.

This is the ultimate reason why Aristotle denies that *ἀρετή* is the Good, and contends that *'Ευδαιμονία* must be *ἐνέργεια κατ' ἀρετήν*. A merely statical treatment of the truly valuable will not suffice: the Good is not merely *ἀγαθὴ φύσις*, it is *ἀγαθὴ φύσις* in exercise, and a *ἕξις* is only valuable as the basis and potentiality of an *ἐνέργεια*.

II.

It follows from this rehabilitation of the Process-view of the world that Aristotle has (*a*) to establish the superiority of his conception of *ἐνέργεια* over the Platonic conception of *οὐσία*, (*b*) that he has to distinguish it from the conception of *κίνησις* or *γένεσις*, which had succumbed to the Platonic criticism.

The first point is of course easy enough to establish. It suffices to point out that a substance apart from its activity is an abstraction (= 'without causality no substantiality'); or, in Aristotle's words, that the actuality is naturally prior to the potentiality, that to *be* is to *be active*.[1]

The second point is more difficult, and Aristotle's proof thereof is apt to appear paradoxical to us because of our inveterate habit of regarding a 'function' (*ἐνέργεια*) as a sort of 'process' (*γένεσις*), or even—when we try to be particularly 'scientific'—as ultimately reducible to a sort of 'motion'. In other words, we ordinarily subsume Aristotle's *ἐνέργεια* under the conception of what he would have called *κίνησις*. But this is the precise opposite of the device whereby Aristotle turned the flank of the Platonic criticism and established his own conception of *'Ενέργεια*. Instead of classifying *ἐνέργεια* under *κίνησις*, he simply makes *ἐνέργεια* the wider conception, and includes *κίνησις* under it as a peculiar species, *viz.*, an *imperfect ἐνέργεια*.[1]

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[1] *Cf.*, esp. *Eth. Nich.*, ix., 7, 4 (1168 *a* 6) ἐσμὲν δ' ἐνεργείᾳ.

Κίνησις, that is, arises from the longing of the imperfect for the perfect, of the *ὕλη* for the *εἶδος*, and is simply the process whereby it reaches whatever degree of perfection the inherent limitations of its nature concede to it.

Ἐνέργεια, on the other hand, does not essentially or necessarily imply motion or change. In fact in the typical case, the perfect exercise of function by the senses, there is neither *κίνησις* nor *ἀλλοίωσις* nor *πάσχειν*; the appropriate stimulus rouses the organ to activity and the organ functions naturally in grasping it[2]; when this process is free from friction ('impediment') perception is perfect and accompanied by *ἡδονή*.

In man unfortunately, this happy state of things is only temporary: activity cannot be sustained because, owing to the defectiveness (*πονηρία* or *φαυλότης*) of a composite nature adulterated with *ὕλη*, we grow weary and allow our attention to wander and cannot be continuously active (*συνεχῶς ἐνεργεῖν*).[3]

But God's case is different; his is a pure and perfect nature; he is pure Form, unimpeded by Matter, and always completely and actually all that he can be. Hence the divine *ἐνέργεια* is kept up inexhaustibly,[4] and ever generates the supreme pleasure, simple and incorruptible, of self-contemplation (*νόησις νοήσεως*), which constitutes the divine happiness. It follows, as a matter of course, that this *ἐνέργεια* is above and beyond *κίνησις*; it is *ἐνέργεια ἀκινησίας* or *ἠρεμία*. Hence in a famous passage[5] we are told that "if the nature of anything were simple, the same action would ever be sweetest to it. And this is the reason why God always enjoys a single and simple pleasure; for there is not only an activity of motion, but also one void of motion, and pleasure is rather in constancy[6] than in motion. And change of all things is sweet, as the poet has it, because of a certain defect."[1]

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[1] *Cf.*, *e.g.*, *Physics*, iii., 2, 201 *b* 31., *ἡ κίνησις ἐνέργεια μέν τις εἶναι δοκεῖ ἀτελὴς δέ*, viii. 5, 257 *b* 8, *ἔστιν ἡ κίνησις ἐντελέχεια κινητοῦ ἀτελής*. *De Anima*, ii., 5, 417 *a* 16, *ἔστιν ἡ κίνησις ἐνέργειά τις, ἀτελὴς μέντοι*: iii., 2, 431 *a* 5, *φαίνεται τὸ μὲν αἰσθητὸν ἐκ δυνάμει ὄντος τοῦ αἰσθητικοῦ ἐνεργείᾳ ποιοῦν· οὐ γὰρ πάσχει οὐδ' ἀλλοιοῦται* (*sc.*, *τὸ αἰσθητικὸν*), *διὸ ἄλλο εἶδος τοῦτο κινήσεως; ἡ γὰρ κίνησις ἀτελοῦς ἐνέργεια ἦν· ἡ δ' ἁπλῶς ἐνέργεια ἑτέρα ἡ τοῦ τετελεσμένου*. *Metaph.*, Θ, 6, 1048 *b* 29 *πᾶσα γὰρ κίνησις ἀτελής*.

Cf. also *Eth. Nich.*, x., 3, 1174 *a* 19, where it is explained that *ἡδονὴ* is not *κίνησις*, because it does not need perfecting (being indeed what itself perfects *ἐνέργεια*), while *κίνησις* does.

[2] *Eth. Nich.*, x., 4, 5, 1174 *b* 14. [3] *Ibid.*, x., 4, 9, 1175 *a* 4.

[4] This is true also of the heavenly bodies, by reason of their more perfect *ὕλη*. *Cf. Metaph.*, 1050 *b* 22.

[5] *Eth. Nich.*, vii., 14, 8 (1154 *b* 25-31).

[6] *ἠρεμία* cannot be translated 'rest' without misleading. For 'rest' to us = non-activity, which to Aristotle is tantamount to non-existence.

The significance of this passage has been generally ignored, and the commentators say as little about it as they conveniently can. Thus, of the two latest editors of the *Ethics*, Prof. Stewart accuses Aristotle of waxing poetical, while Prof. Burnet finds nothing to say about it at all; and as this has occurred after I had done my utmost to call attention to it,[2] I think I may assume that still further comment is needed to help modern minds to grasp the beauty and importance of Aristotle's thought.

III.

It follows from the above that the perfect or divine life is one of unceasing and unchanging activity, which is eternal consciousness of supreme happiness. And yet nothing *happens* in it. It is eternal, not in the illusory sense in which geometrical triangles and epistemological monstrosities (like *e.g.*, Green's *Eternal Self-Consciousness*) are put out of Time by a trick of abstraction, but because it can be shown to have a positive nature, which precludes the conditions out of which time-consciousness arises. For, as Aristotle was well aware, Time is a creature of Motion, it depends on the motions whereby alone it can be measured; it is κινήσεως ἀριθμός. If then κίνησις arises out of the imperfection of an ἐνέργεια, the perfecting of an ἐνέργεια will necessarily involve the disappearance of Time, together with that of motion. Or, as I have elsewhere expressed it,[3] Time is the measure of the impermanence of the imperfect, and the perfecting of the time-consciousness would carry us out of Time into Eternity. In other words, the conception of *'Ενέργεια 'Ακινησίας* is a *scientific* formulation of the popular theological conceptions of Heaven and Eternity.

IV.

Of course all this sounds unfamiliar and fantastical and is not quite easy to grasp—if it had been the notions of Heaven and Eternity would hardly have become targets for

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He uses the word in order to express the steady and effortless maintenance of a perfect equilibrium. *Cf. An. Post.*, ii., 19, where the same word is used to describe the emergence of the logical universal, *i.e.*, of the constancy of meaning, out of the flux of psychological 'ideas'.

[1] *Cf.* also *Metaph.*, Λ. 7, 1072 *b* 16.

[2] *Riddles of the Sphinx*, p. 443.

[3] *Ibid.*, ch. ix., § 11.

so much cheap scorn. And it is needless also to deny that there seems to be a paradox here which demands a defence.

The paradox is that there can be activity, life and consciousness without change, imperfection or decay. This seems an utter paradox because in our actual experience consciousness is a succession of mental states or processes, life is sustained by a continual metabolism, and activities are recognised only by the changes which they exhibit. We do not therefore hesitate to regard a changeless activity as equivalent to *rest, i.e.*, as cessation of activity, as death.

About these facts, of course, there is no dispute. All motions are measured by the unequal rates of change, and when two bodies maintain the same position relatively to each other, they are taken to be at rest. Similarly it is not denied that vital function consumes living tissue, nor that consciousness is a continuous flow of experiences.

The only question is as to what inferences we are entitled to draw from these facts, and by what conceptions we are to interpret a transcending of change such as is *conceivable*, though not *imaginable*.

Accordingly I propose to show: (1) That we are *not* entitled to infer from the facts the impossibility of an *ἐνέργεια ἀκινησίας*; (2) that it is by this conception rather than by that of 'rest' that the ultimate ideal of existence should be interpreted. I shall show this of the conceptions of Motion, Life and Consciousness in turn.

V.

(*a*) It has long been admitted that *Motion* tends to equilibrium, and that in a perfect equilibrium there would be no (perceptible) motion and no available energy.

Under the name of the dissipation of energy this fact of its equilibration has become the great bugbear of physics and has given rise to the gloomiest vaticinations concerning the inevitable decadence and ultimate doom of the universe.[1]

This whole difficulty arises out of our habit of contemplating equilibration as cessation of Motion or 'Rest'. An equilibrated universe cannot change and its latent energy cannot be used to change it. *Ergo* such a universe is 'played out'.

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[1] Strictly the 'degradation' or 'dissipation' of energy is said to apply only to finite portions of the universe, and consolation is sometimes sought in the thought that the universe is possibly infinite, and that in an infinite anything may happen. Now it is true that the doctrine of the dissipation of energy ceases to apply to an infinite universe, but the reason is merely that in view of an actual infinity, all propositions become unmeaning. And an infinite universe or whole involves a contradiction in terms, and is a pseudo-conception which can be reached only by a confusion of thought. *Cf. Riddles of the Sphinx*, ch. ix., §§ 2-9.

But why should we not regard it as a case of *'Ενέργεια 'Ακινησίας*, as a *perfecting* of Motion until it has everywhere become perfectly regular, steady, smooth and frictionless? Logically, in fact, this seems a far preferable alternative. Suppose, *e.g.*, an equilibrium of temperature. If two bodies are at equal temperatures, does that mean that they have ceased to have temperature? Have they ceased to radiate out heat, or (to put it in terms of the current theory about heat) to exhibit the molecular vibrations which appear to our temperature-sense as heat? Surely not: it means that each body receives as much 'heat' as it radiates, that the 'molecular motions' proceed with entire regularity and constant velocities. But if so, is it not a condition of Activity (*ἐνέργεια*), not of Rest?

(*b*) In the case of *Life* it is somewhat easier to conceive perfection as a changeless activity, because we are more inclined to regard life as depending on a harmony of changes rather than on the mere instability of organic processes. Thus if with Spencer we conceive life as an adjustment of internal to external relations ('mutual adjustment' would be better!), it is evident that the success of life will depend on the degree of correspondence, however attained, between the organism and its environment. Perfect correspondence therefore would be perfect life, and might be conceived as arising by a gradual perfecting of the correspondence until the organism either adapted itself completely to an unchanging environment or instantaneously and *pari passu* to a changing one, in such wise that the moment of non-adaptation (if any) was too brief to come into consciousness. In both these cases the relation of the organism to its environment would be unchangingly the same. It would persist therefore in being what it was, in expressing its nature in its activities, without alteration or decay, gaining nothing and losing nothing, because of the perfect equipoise of waste and repair.

That such an equilibrium is not unthinkable we may gather from the conceptions of a balance of income and expenditure, of the 'stationary state' of economics and of perfect justice as a social harmony in which each maintains his own position in society without aggression on others. Surely in none of these cases could it be asserted that there was a *cessation* of social or industrial relations. Once more the apparent paradox arises merely out of the habit of interpreting *ἐνέργεια ἀκινησίας* as a cessation of activity.

But it is this latter view which is really unthinkable, as may be illustrated by taking a hypothetical case of a growing adaptation or harmony on the way to the perfection, the interpretation of which is disputed.

It will be admitted that in the stage *immediately preceding* perfect adaptation the organism is very much alive, and moreover carries on its life with a minimum of friction and a maximum of success. In such a life difficulties would exist only to be overcome, and any *process* of adapting would be only momentary. Now suppose it to become *instantaneous.* We are required to believe that in the very moment when the last trace of maladaptation is eliminated, life suddenly and inexplicably ceases, and the organism, which but the moment before had been rejoicing in its might, is with scarce a noticeable change suddenly smitten with metaphysical annihilation! A catastrophe like this could be paralleled by nothing in nature or literature except the tragic fate which overwhelmed Lewis Carroll's Baker "in the midst of his laughter and glee," when the Snark he had so successfully chased turned out to be a Boojum, and he "softly and silently vanished away"!

And so the principle of continuity compels us to think the *ἀκινησία* of perfect adaptation, to which all *κινήσεις* point, as *ζωὴ καὶ ἐνέργεια*, as Aristotle contended.

(*c*) In the case of *Consciousness* the same interpretation certainly seems at first sight to involve greater difficulties. For what most impresses us about consciousness is the flux of Becoming, which is the world's aspiration to Being. Consciousness flows with a fluidity which is quite incapable of precise, and almost of intelligible, statement. It is a perpetual transition from object to object, not one of which it can retain for a fraction of a second, and in which nothing ever occurs twice. To suggest, then, that it may persist, in what would amount to a timeless contemplation of unchanging objects, would seem to be madly flying in the face of all the facts.

Nevertheless, the Aristotelian theory has no need to fly in any one's face or ever to leave the solid ground of legitimate inference. It has no quarrel with the facts: it only disputes about their interpretation. To infer from the facts the 'relativity' of all consciousness and Hobbes' dictum *sentire semper idem et nil sentire ad idem recidunt* appears to it either a truism or an error, and in no wise decisive.[1] It is a truism, if it asserts that sensation *in time* involves change, and that all *our* experience is in time. It is an error, if it is taken as the starting-point of an argument which either proposes to conduct us out of consciousness and to represent it as an unmeaning accident in a scheme of things which when perfectly equilibrated would transcend it, or even to bind us Ixion-like on an unresting wheel of change.

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[1] *Cf. Riddles of the Sphinx*, ch. xii., § 5.

For the facts are susceptible of a better interpretation. May not the flow of appearances be due to a *defect* of consciousness engendered as an adaptive response to the impermanence of a defective world? Is it not a *πονηρία* of a *φύσις* impotent *συνεχῶς ἐνεργεῖν*?

At all events it seems to be the case that (1) we strive to prolong and retain pleasant states and objects of consciousness; (2) the fluttering of attention is protective, and necessary to survival under conditions which render it unsafe to become too much absorbed by the object of our attention (or attentions), lest something to which we have failed to attend should absorb us in a too literal sense; (3) even where practical exigencies do not compel us, we have to shift the objects of our attention because we never find them *wholly* satisfying. The unsatisfactoriness in this case would be the cause of the impermanence, and not *vice versa*. But could we once attain an object of contemplation which was wholly satisfying, should we not seek to retain it in consciousness for ever? If we had achieved *τὸ ἄριστον*, should we wish to change it, for the worse? if we had once reached heaven, should we lust again for the vicissitudes of earth?

Surely it follows from the very conception of the Good that it should be a permanent possession; and if it is attainable at all, it can only be as an *ἐνέργεια ἀκινησίας*. I suspect, therefore, that the objection to *ἐνέργεια ἀκινησίας* is at bottom one to the whole notion of an attainable *ἀγαθὸν*. But whether the advocates of this objection are naïvely optimistic enough to imagine that an *unattainable ideal, recognised as such*, continues to be an ideal a rational being can aim at, or whether they are pessimistic enough to renounce all ideals altogether, it is *their* notion and not that of *ἐνέργεια* which is fundamentally paradoxical.

As before, we may illustrate this more concretely by examining the moment immediately preceding the hypothetical fixation of consciousness. It must be reached, of course, by a progressive development of consciousness in fulness and intensity and power of attention and the gradual suppression of all interruptions and discords. There can be no doubt, therefore, that it is consciousness in a very high sense, *i.e.*, a contemplation, most pleasant and unimpeded, of that which most delights the soul. If now we eliminated the last faint source of trouble and unrest and disturbance, which prevented us from concentrating our attention wholly upon what it most loves to dwell on, why should consciousness go out rather than go on? Will it not become rather absolutely constant and continuous, and remain conscious *sensu eminentiori?*

VI.

The *'Ενέργεια 'Ακινησίας* then is conceivable, if we choose to understand it. Indeed one might proceed to maintain that ultimately it alone is conceivable as the ideal of Being.

Of its rivals, the conception of Becoming, as philosophers have had to recognise from Parmenides to Hegel, is infected with insoluble contradictions, which disappear only if we follow Aristotle in conceiving it as *ἐνέργεια ἀτελής*. For in this event all the processes we actually observe may be regarded as pointing forward to an ideal of a perfectly and equably self-sustaining activity, to attain which would relieve them of their contradictions.

The ideal of Rest, on the other hand, is wholly illusory: there is no rest anywhere attainable for the wicked or the virtuous. It is non-existent as a fact, and it is non-existence as a conception. For if anything could really cease to be active, it would cease to be. We cannot, therefore, interpret existence by the conception of Rest, unless, indeed, it pleases us (with Mainländer) to regard the history of the world as the protracted agony of the Absolute's suicide.

Compared with these, the advantages of the conception of *'Ενέργεια 'Ακινησίας* are manifest.

It enables us to give a scientific interpretation of the religious conception of Heaven and to differentiate it from that of Nirvâna (= 'bliss conceived as rest'). It involves a positive conception of Eternity and explains the transition from 'Time' to Eternity.

We avoid, moreover, sundry difficulties. We may dismiss the apprehension of an equilibration of cosmic energy to be regarded as the final destruction of cosmic activity. We may thus avoid henceforth Spencer's inconsistency in regarding equilibration now as universal death, now as perfect life, according as physical or biological analogies come uppermost in his mind.[1]

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[1] As the chapter on the subject in *First Principles* affords an admirable example of the confusion engendered by a lack of the conception of *ἐνέργεια ἀκινησίας*, it may be useful to trace Mr. Spencer's utterances in

After this it seems almost trivial to mention that (as has long been recognised) the Aristotelian conception of ἐνέργεια affords no foothold for the 'unknowable substrate' view of Substance, since the δύναμις is entirely dependent on the

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detail. It will be seen that he keeps on contradicting himself as to the character of equilibration on alternate pages, and speaks with a double voice throughout.

(*a*) By the first voice it is conceived as *death* or *cessation of activity*. Thus § 173: "there finally results that complete equilibration we call *death*". § 176: "the final question of Evolution is . . . incidental to the universal process of equilibration; and if equilibration must end in complete *rest* . . . if the solar system is slowly dissipating its forces . . . are we not manifestly progressing towards omnipresent *death*?" He answers that even though the "proximate end of all the transformations we have traced is a state of *quiescence*," an "ulterior process may reverse these changes and initiate a new *life*". (Hence, too, the see-saw of Evolution and Dissolution is deduced in ch. 23.) Again in § 182 he asks "Does Evolution as a whole, like Evolution in detail, advance towards complete *quiescence*? Is that motionless state called *death*, which ends Evolution in organic bodies, typical of the *universal death* in which Evolution at large must end?". . . "If, pushing to its extreme the argument that Evolution must come to a close in complete equilibration or *rest*, the reader suggests that, for aught which appears to the contrary, the *Universal Death* thus implied will continue indefinitely, it is legitimate to point out" that we may "infer a subsequent *Universal Life*" if we suppose equilibration to be again upset, or (more properly) unattainable. In short, equilibration = 'death'.

(*b*) The above seems unequivocal enough until we listen to the second voice, which exactly inverts the valuation of equilibration and non-equilibration, and implies the equation, 'equilibration = life'. *E.g.* § 173 (*init.*), death is explained as due to a *failure* of equilibration. § 173 (*s.f.*), the *life* of a species depends on an equilibration between the forces that tend to increase and to destroy it. § 174, an equilibration or correspondence between idea and fact is the end of mental evolution, and "equilibration can end only when each relation of things has generated in us a relation of thought" . . . and then "experience will cease to produce any further mental evolution—there will have been reached a *perfect* correspondence between ideas and facts; and the intellectual *adaptation* of man to his circumstances will be complete". So, of moral and emotional adaptation—"the limit towards which emotional adaptation perpetually tends . . . is a combination of desires that corresponds to all the different orders of activity which the circumstances of life call for" . . . and this "*progressive adaptation* ceases only with the establishment of a *complete equilibration* between constitution and conditions". Again, § 174 (*s.f.*), "Thus the ultimate state . . . is one in which the kinds and quantities of mental energy generated . . . are equivalent to, or in equilibrium with, the various orders . . . of surrounding forces which *antagonise* such motions". § 175, Equilibrium is held up as the economic ideal from which the fluctuations of over- and under-production depart. It is the all-inclusive *ne plus ultra* of the adaptation of "man's nature and the conditions of his existence". It is also the social ideal, and limits the process towards heterogeneity—"the ultimate abolition of all limits to the freedom of each, save those imposed by the like freedom of all, must result from the *complete equilibration* between man's desires *ἐνέργεια*. Once, therefore, all potentialities were realised, the antithesis between appearance and reality would disappear in their coincidence. And a *κόσμος* composed of *ἐνέργειαι ἀκινησίας* would have nothing to fear from an irruption of incalculable and inexplicable ‘Things-in-themselves’. And finally, in spite of the risk of exposing myself to a charge of a *μεταβάσις εἰς ἄλλο γένος*, I cannot forbear to point out that no one who believes that it is the duty of philosophy to systematise the whole of experience can fail to appreciate the great practical value of putting before men a metaphysical ideal of Being which stimulates us to be active and to develop all our powers to the utmost, while at the same time warning us that such self-realisation must assume the form, not of a hideous, barbarous and neurotic restlessness, or of an infinite (and therefore futile) striving and struggle, but of the harmonious equipoise of an *’Ενέργεια ’Ακινησίας*.

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and the conduct necessitated by surrounding conditions”. And *cf.* lastly the sublime conclusion of the chapter (§ 176), in which equilibrium, guaranteed by the Persistence of Force, secures to us the prospect of perfect happiness by affording “a basis for the inference that there is a gradual advance towards harmony between man’s mental nature and the conditions of his existence,” and “we are finally bidden to believe that Evolution can end only in the establishment of the greatest *perfection* and most complete happiness”!

The italics, of course, are mine throughout. As for the contradiction, it is striking, but easily explicable. The suppressed middle term, which connects the two conflicting views of the value of perfect equilibration, is the absence of motion or change. This being a characteristic both of ‘death’ and complete adaptation, the interpretation wavers in the most tantalising way.

III.—THE PRINCIPLE OF LEAST ACTION AS A PSYCHOLOGICAL PRINCIPLE.

By W. R. Boyce Gibson.

I.—The Physical Principle of Least Action.

The principle of Least Action is no doubt best known as a leading generalisation of Mechanical Science. As such it can of course have no obvious connexion with any psychological principle. A principle, to have psychological value, must be a principle for the explanation of psychical facts, and not a principle imported from another science on the ground that it has proved effective in explaining the facts of that science. The tendency to extend the explanatory office of a principle or category beyond the realm of facts for which it was originally designed is however so strong that one almost feels called upon to justify one's self for not indulging in so prevalent a weakness. This I propose to do at the outset by a short critical estimate of the meaning of the Principle of Least Action in Mechanical Science.

I consider it has been the misfortune of Mechanical Science that its principles should not have been given names having associations of a strictly mechanical kind. It has sometimes seemed to me as though the illusions produced by the psychical associations of the name were to a certain extent responsible for the subsequent appropriation of these mechanical principles by Philosophy for the elucidation of mental phenomena. A law which explains a number of material phenomena is given a name suggesting some psychical activity; it is called a law of Inertia, of Attraction, of Least Constraint, of Repose, of Least Action; and then Philosophy, brooding over the name without an expert knowledge of the facts designated by the name, has sight of some profound cosmological principle and does not see why what has cosmological significance should not apply to movements of mind as well as to the movements of matter; are not the phenomena of mind expressive also of inertia, of a dislike to constraint, of a preference for least action? It is significant that where names have been judiciously given, as *e.g.*, the law of Conservation of Areas, the principle of virtual velocities, D'Alembert's principle, names which all agree in suggesting nothing psychical, there has been no tendency to extend their application outside the realm of the Science they represent. How could one apply the Law of Least Squares to the facts of mental life?

The principle of Least Action has been peculiarly unfortunate in this respect. Maupertuis, who first publicly enunciated it, proclaimed it as a universal teleological principle, and in this he was supported by Euler, its real discoverer,[1] who first presented the principle in a serviceable form. Lagrange was the first to see clearly that far from being a principle from which the designs of the Creator could be inferred, it could itself be deduced as a necessary consequence from the ordinary laws of motion.[2]

The principle is now a century and a half old, but has in that time been expressed in so many different ways that it is not easy to say in a few words what is exactly meant by it. Its general meaning is simply the expression of the fact that in moving from one point to another a body will follow the path which involves the least sum total of action, the Action of a body during any time being a term adopted by Leibnitz to express the continued product of the mass, velocity and space traversed by the body during that time.

What then is the significance of this mechanical principle? We may say that the value of a mechanical principle depends on three considerations: (1) On its generality, *i.e.*, on the number of other mechanical principles deducible from it; (2) on its being a good working principle, a principle easily applied to the solution of mechanical problems[3]; (3) on the simplicity of its physical import. Now, the principle of Least Action possesses great generality, and two great mathematicians, Lagrange[4] and Helmholtz,[5] have made it the fundamental principle from which they have attempted to deduce all others. It is still a vexed question whether the principle of Least Action has a right to this supreme position in the hierarchy of mechanical principles, Mach contending that no general mechanical principle has any claim to priority over any other, inasmuch as they are all different forms or aspects of one and the same fundamental physical fact—the only true prior—and can all be deduced one from the other; and Hertz, contending that in addition to the presence of certain refractory facts which in his opinion argued strongly against Helmholtz's apotheosis of the principle of Least Action, the principle had not a sufficiently simple physical import to justify its standing at the head of an entirely deductive Mechanical Science. In his own attempt at elaborating the principles of mechanics into a single deductive system Hertz has enunciated a principle—a composite of the principle of Inertia and of Gauss' law of Least Constraint—which has apparently the double merit of possessing supreme generality and a relatively intelligible physical import.[1]

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[1] *Cf.* Herr Adolph Mayer, *Geschichte des Princips der Kleinsten Action*, Leipzig, 1877.

[2] *Mécanique Analytique*, p. 246.

[3] In this respect the Principle of Least Action is found wanting; *cf.* Bartholomew Price, *Infinitesimal Calculus*, vol. iv., p. 150.

[4] Lagrange, (*Œuvres*, ed. Serret, vol. i., p. 365), in a sequel to a paper of his *Essai d'une nouvelle méthode pour déterminer les maxima et les minima des formules intégrales indéfinies.*

[5] H. v. Helmholtz, "Über die physikalische Bedentung des Princips der Kleinsten Wirkung," *Journal für die reine und angewandte Mathematik* (usually known as *Crelle's Journal*), Berlin 1886. Hundertster Band, Zweites Heft, pages 137-166, *cf.* especially pages 142, 143. For a good general review of the various treatises in which Helmholtz attempts to

As regards the physical import of the principle of Least Action, I cannot see that anything at once certain and satisfactory can be said at present. Lagrange speaks of it as expressing 'a remarkable property of the movements of bodies,'[2] but does not attempt to make its import really clear. Helmholtz has a whole treatise on 'The Physical Meaning of the Principle of Least Action,' but he does not succeed in displaying this remarkable property as a natural consequence of properties less remarkable but more intelligible. This most desirable reduction of the remarkable to the obvious is definitely attempted by Mach, but alas! with a similar result. The same writer, however, gives casually, in other parts of the same work, certain indications of the direction in which the solution must be sought. He most tantalisingly points out in the first place that all mechanical principles, being deducible each from the other, are only different forms of one and the same physical fact, but leaves us uncertain as to what this interesting fact may be. Probably if Mach were pressed to state it in a word, he would answer 'Work,' work being, as he puts it, the factor that determines motion, motion taking place only where there is work to be done.

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found the Science of Mechanics on the principle of Least Action see *Herman von Helmholtz's Untersuchungen über die Grundlagen der Mathematik und Mechanik*, von. Dr. Leo Kœnigsberger, especially p. 50.

[1] *Gesammelte Werke von Heinrich Hertz*, Band iii., *Die Prinzipien der Mechanik* (with a preface by Helmholtz himself).

[2] Lagrange, *Mécanique Analitique*, p. 299.

From this we would gather that the property of least action has its intelligible physical import in some obvious proposition as to the conditions under which mechanical work is done.

This inference is strengthened by the following extract from the same work: 'Often the phenomena of Nature exhibit maximal or minimal properties, because when these greatest or least properties have been established the causes of all further alteration are removed. The catenary gives the lowest point of the centre of gravity, for the simple reason that when that point has been reached all further descent of the system's parts is impossible. Liquids exclusively subjected to the action of molecular forces exhibit a minimum of superficial area, because stable equilibrium can only subsist when the molecular forces are able to effect no further diminution of superficial area. The important thing, therefore, is not the maximum or minimum, but the removal of work; work being the factor determinative of the alteration. It sounds much less imposing, but is much more elucidatory, much more correct and comprehensive, instead of speaking of the economical tendencies of nature, to say, "So much and so much only occurs as in virtue of the forces and circumstances involved can occur".'[1]

Mach again explicitly points out that the physical import of the principle of virtual velocities—one of the principles from which the principle of least action can be deduced—is simply this same result, that 'motion can never take place except where work can be performed'. Taking this in conjunction with the terms of the extract quoted above it would seem as though this were perhaps the fundamental physical fact of which all mechanical facts are merely differing forms. If so, it would be a most meritorious action on the part of some physicist to point out clearly and without the use of calculus how to deduce from this simple fact that motion never takes place except where work can be performed, that remarkable property of bodies expressed in the law of Least Action. This would completely solve the question of the physical import of the principle.[2]

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[1] *Cf.* also Mach, *Science of Mechanics*, pp. 74-77.

[2] It may be that the call for this deduction is a fanciful one. The so-called remarkable property was discovered by Euler as follows: He sought an expression whose variation equated to zero would give the ordinary equations of motion. This expression is, however, as Mach points out, only one of various devisable expressions whose variations equated to zero give the ordinary equations of motion. It does not follow that all these mere mathematical formulæ have a direct physical

The fact that the principle of Least Action can be deduced from the principle of Virtual Velocities with strict logical necessity suffices, as Hertz ingeniously points out,[1] to dispose of the fiction that the action in question involves any occult economic activity on the part of the body concerned. The most deanimistic physicist will not grudge to a material body any tendency to control its own motion economically, which can be shown to be a necessary consequence of the fact that motion can never take place except where work can be performed. We may take it then, provisionally, that the principle of Least Action owes its importance as a mechanical principle merely to this, that it is one of the many mutually deducible forms for expressing some fundamental, obvious, instinctively understood physical fact. 'In the case of *all* principles,' writes Mach,[2] 'we have to deal merely with the ascertainment and establishment of a fact.'[3] This one main result of our inquiry into the meaning of the mechanical principle of Least Action will serve us as a clue in the further inquiry with which we are now confronted as to the validity of the principle as a psychological principle.

We put the question to ourselves as follows: What is the main fact or facts with which the Science of Psychology has to deal? What are the principles that embody this fact or facts in the most general and appropriate form? Can some principle of Least Action be said to be among these principles? If so, what is the psychological import of the principle? If not, can such a principle be allowed a secondary place in psychological theory, or must it be banished altogether from Psychology?

II.—The Principles of Psychology.

The main fact with which the Science of Psychology deals is, as I take it, the activity of the individual Consciousness. The aim of Psychology is to analyse and mentally reconstruct in an intelligible way the incessant change which character-

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import. Jacobi's form of the Hamiltonian principle of Least Action abounds in square roots to which it is impossible to give a direct physical meaning. It is mainly the simplicity of Euler's form of the principle which has led physicists to inquire so persistently into its physical import.

[1] *Prinzipien der Mechanik*, p. 178, *cf.* also p. 272.

[2] Mach, *Science of Mechanics*, p. 76.

[3] Throughout this inquiry I use the word 'fact' as a fact of Physics or Psychology, as the case may be, not as a fact in the eyes of Metaphysics.

ises the process of Consciousness. Now this change is by no means a mere Heraclitean flux; in so far as it is, it has only a subordinate interest for the psychologist. The change which is of primary concern to Psychology is the change known as mental development, a change possessing definite continuity and direction. The fundamental fact within this ceaseless activity of the individual Consciousness is thus, for Psychology, the fact which gives intelligible unity to this activity. The ultimate psychological principle would then seem to be a principle expressive of this unity—in a word, the principle of the Unity of Consciousness.

What then is this Unity, this fact of the mental life, the presence of which serves to distinguish mental development from mere mental change? In answer to this question I should like first of all to emphasise this, that what we are in search of is a certain fact required by Psychology as a basis for some theory of mental development. It is thus imperative that we should make our own statement as to the scope of Psychology, for the scope determines the data. I propose then, with a view to fixing the fundamental fact, to restrict the scope of Psychology to the study of the development of Consciousness in so far as it is determined, directly or indirectly, by normal attentive processes. A larger conception of the scope of Psychology would of course include subattentive processes and the attentive processes of the multiple Consciousness, but this widening of the scope enormously enhances the difficulty of finding as an experiential fact what we have called the Unity of Consciousness. At the same time the restriction should be estimated at its due value, for all actual Consciousness is attentive, attentive Consciousness being by no means synonymous with the reflective Consciousness. In the case of Consciousness that is reflective, Unity of Consciousness is practically the same thing as Consciousness of Unity, but the Unity of Consciousness we are considering is a fact that is given with—and indeed makes possible—not only Consciousness of Unity, whatever that may mean, but the very Consciousness of an object. It is a form of Consciousness that is as characteristic of animals and of savages as it is of civilised adults.

Having limited our inquiry in one direction let us now limit it in another. The concept of the Unity of Consciousness has had so many meanings given to it that it may be in the interests of clearness to repudiate the more obvious of these as lying outside what we are in search of. In the first place the Unity of Consciousness, as a fundamental fact in mental development is not the simple indestructible self-identity of the uncritical metaphysician. It is not the metaphysico-theological Unity of Consciousness. Nor again is it the more subtle logico-methodological Unity of Consciousness. The unity we are considering is not of that shadowy sort whose existence is purely ideal, and is variously known as a postulate, precondition or presupposition of conscious activity. 'Unity' is in all cases a conception, but what we want is not 'a conception apart from which the activity of Consciousness is meaningless,' but a conception which embodies an actual fact. What we want is not a precondition, but an actual condition, fact or a constituent of Consciousness. Finally by the Unity of Consciousness as a basis for mental development is not meant what we may call the Coherency of Consciousness. That which serves as a *basis* for mental development makes growing coherency possible; it is not in itself coherency.

To make these eliminations more intelligible I must add that they are made with special regard to the place Psychology is commonly supposed to hold relatively to other sciences. They are made in fact on the assumption that a study of Psychology follows naturally on a study of Biology and is prefatory to a study of Logic and Metaphysics. This point of view once taken it seems most reasonable (1) to entirely exclude from psychological inquiry the two conceptions of the Unity of Consciousness which I have called the logico-methodological and the metaphysico-theological; (2) to take as the fundamental working conception of Psychology that conception of the Unity of Consciousness which may suitably be called the biological conception, the conception namely of the Unity as a vital[1] Unity, the Unity of a conative and developing Consciousness; (3) to take as the true function of the Science of Psychology the discussion of the processes whereby on the basis of this vital Unity, a rational coherent Unity of meaning and purposive movement is built up. In so far as the coherency of motor ideation implies the control of conduct by reference to some good, we have reached a conception of the Unity of Consciousness which might constitute a suitable starting-point for Ethics.

We can now approach with some confidence the *fact* of which we are in search. Let us take any attentive mental process and inquire into the conditions of its unity. The most obvious condition of Unity is that the object of attention, whatever it may be, must remain one and the same throughout, *i.e.*, the discriminative activity of attention must move within one and the same sphere of Interest. For it is only in being related to one and the same interest that the discriminations of attention find their meaning; apart from this reference they are mere disconnected observations, the well-known products of inattention. Hence there must be oneness of interest, and it is this oneness of interest that gives oneness to the object of attention and hence oneness to the consciousness attending. We may say then that the Unity of Consciousness, as the fundamental experiential fact in attentive mental process consists in a continuous identity of interest or object aimed at.

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[1] By *vital* Unity I mean nothing more than Unity of Interest or Conative Unity. *Cf.* The "dependent vital series" of Avenarius, series of a purely psychical kind.

Summing up we may say that the conative unity with which we are concerned is a unity whose main characteristic is not the coherency of parts within a whole but the persistency of one conative attitude, and further that it is just this presence in attentive consciousness of a relatively abiding element of sameness which makes possible mental retentiveness and reproduction, the factors most vitally concerned in the formation of that coherent unity of Experience which gives to Consciousness what we may call its unity of meaning.[1]

It is an inevitable result of trying to seize and to name the fundamental facts of a science that one does the fact injustice. To name it is but to name an aspect. What the fact really is can perhaps be best stated by stating the condition it must satisfy in order to be fundamental. That condition, as I take it, is simply this: it must be that feature of the subject-matter of the science which makes the subject-matter in all its diversity amenable to scientific treatment. But this feature which saves diversity from becoming a chaos of isolated fragments cannot be exhaustively embodied in the term 'unity' unless we conceive of this unity as indissolubly involving other aspects to which we often give other names. In the case of mental process, or indeed of any time-process, the unity, as we have attempted to define it, involves indissolubly at least one other aspect, that of 'continuity'. It is of no use attempting to deduce the continuity of mental process from its unity, or *vice-versa*. The deduction can of course be made, but as it can be made either way, the making of it does not prove the primacy of either factor. In precisely the same way the principle of virtual velocities may be deduced from the principle of least action and the principle of least action from the principle of virtual velocities, in fact all mechanical principles can be deduced indifferently one from the other, all being mere varying forms for expressing some one fundamental physical fact. No one of them can therefore be said to be more ultimate than the rest, except from the point of view of convenience, *i.e.*, of theoretical simplicity, that principle being the most ultimate from this point of view which entails the simplest deductive superstructure and has the simplest real import.

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[1] *Cf.* Stout's *Manual of Psychology*, bk. i., ch. ii.

But here we must distinguish. Mental process is not a fact of the same order as mechanical work.[1] The unity and continuity of mental process are facts which derive their richest meaning from considerations totally inapplicable to mechanical work. Mental process is a vital, rational process, a conscious striving.[2] The unity of mental process, its fundamental fact, involves, therefore, not merely a certain abstract continuity such as is given in the unity of a movement in space from one point to another, but a continuity proper to a something that grows, and grows by thinking. The Unity of Consciousness is abstractly one simply in so far as it is continuous or persistent. It is a vital unity from the beginning in virtue of the fact that whatever meaning or skill is acquired is, from the moment we begin to learn by experience, *i.e.*, to develop, utilised for the further acquisition of meaning or skill. It is a vital unity in virtue of the *cumulative* nature of its activity. It is a rational unity, at the outset, only in the sense that its vital unity is not mere unity or continuity of life as in the case of a plant or diatom, but unity and continuity of interest and attention. In all that follows we shall understand by the vital Unity of Consciousness that primary unity which is not only the basis of growth generally, but of that specific form of growth which is known as mental development. We presuppose the rational activities whereby unity of experience is acquired.

By the cumulative activity of Consciousness, as displayed in attentive mental process, I mean not only an activity which in virtue of the continuity of interest shown succeeds in bringing into relation all the successive discriminations made during the process, but an activity which operates in such a way that its later discriminations could not be made unless the earlier ones had been previously made. This is a first cumulative factor in the process of mental growth. Each new acquisition of meaning becomes incorporated into the interpreting context of acquired experience by the help of which new acquisitions of meaning can alone be made. Meaning once acquired is instrumental in acquiring new meaning.

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[1] And yet Mach's fundamental principle of mechanics, that work is the factor determinative of motion and that where there is no longer any work to be done, there can no longer be any motion, is interestingly like an abstract statement of the fundamental principles of psychical activity which connects effort with the impulse to satisfy felt needs, stating that effort variously adapts itself so long as the impulse still remains unsatisfied, but ceases to be, so soon as the impulse is satisfied.

[2] Or, as we might have put it, though less aptly for the purpose we have in view, mental process is a process made up of impulses and their controlling, and mental development, the gradual acquisition of a more determinate and organised control over impulse. *Cf.* Lloyd Morgan's *Comparative Psychology*, p. 182.

A second cumulative factor is associated with the fact that the more attentively an interest is fed, as above described, the more effective does it become in diverting all fresh knowledge to itself. Attention, as we say, becomes expectant on its behalf, sensitive, that is, to the presence of anything that in any way concerns it. In a word, there is a cumulative effect due not only to an increase in the number of feelers engaged in apprehending the new material, but due also to an increase in the sensitiveness of these feelers.

The cumulative activity of consciousness is most effective when it works continuously within one and the same sphere of interest, the greater, that is, the vital unity of Consciousness. For in readopting a temporarily forsaken interest our first duty is always of a purely restorative character: an interest withers through neglect and in order to revive it to its former efficacy we have first to reassimilate a mass of half-forgotten material. Moreover, if this work of reassimilation is done too rapidly, the subtle associations of thought and fancy that gave the interest much of its previous force will not be won back. Where there is dissipation of interests there is always a dissipation of the results of previous activity going on in all the spheres of interest except one. This presupposes that the interests are alien to each other. In so far as they are co-operative they come within one and the same enlarged sphere of interest.

The question before us now is whether the activity characteristic of the vital Unity of Consciousness can be said to involve a principle of Least Action. A principle of Least Action as expressive of psychical facts must mean, in the main, one of three things:—[1]

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[1] It will be noticed that I make no attempt to deal with the Principle of Least Resistance, except by implication, though such a well-worn notion no doubt requires and would no doubt repay a direct attempt to elucidate it.

(1) A principle of least exertion possible;
(2) A principle of lessening exertion;
(3) A principle of the most effective exertion, *i.e.*, of least exertion for a given result or for a given exertion, a maximum of result.

For brevity's sake we shall refer to these respectively as the principles of *Inertia*, *Facilitation* and *Economy*.

III.—The Principle of Inertia.

The most unambiguous expression of this principle as a psychological principle that I have come across is found in an article contributed, in 1894, by M. Guillaume Ferrero to the February number of the *Revue Philosophique*. It is entitled 'Mental Inertia and the Law of Least Effort'. In a footnote on the first page we read: 'The merit of having introduced the idea of Inertia into Psychology belongs confessedly to M. Lombroso who made use of the idea in order to explain the innate conservatism of the human mind. In the present article I am proposing a fresh application of this same idea which appears to me to be a very fruitful one.'

As regards Mental Inertia, M. Ferrero takes up an extreme position. He maintains that when the brain is not stimulated by sensations, it exists in a state of absolute inertia. The law of mental inertia is for him merely the statement of the fact that man receives from without the impulse to feel, or think, or strive. It is the *tabula rasa* in another form. The impulsion towards psychical activity once received, man's main tendency, in accordance with the principle of Least Effort, is to make the least mental effort possible. Man, naturally, has a supreme horror of work in any form, and the law of Least Effort expresses this tendency of a man to employ such processes, muscular or mental, as require the least exertion.

M. Ferrero then appeals to the facts of Evolutional Sociology as proving in a most marvellous manner that this law of Least Effort controls the psychical activities of man. Man's tendency throughout, he argues, has been, when confronted by the necessity of change, to aim at such provisional adaptations as involved the least outlay of effort, even at the cost of obtaining only the most insignificant and fleeting results.

Such a clearly defined attitude as that of M. Ferrero lends itself easily to criticism. Let us first take M. Ferrero's conception of mental inertia as a fundamental psychological fact. It is the attempt, as I take it, to pass straight from Physics to Psychology with a blind leap over the facts of Biology. This may be a consistent illustration of the principle of Least Effort but it is unjust to Psychology. Before any mental process whatsoever can take place the organism must have taken in its necessary nourishment, digested and assimilated it. This assimilation brings with it internal changes of one kind and another which issue frequently in spontaneous movements. Thus the movements of an amœba, to take the humblest of organisms, take place usually without any external cause, being determined from within by the ceaseless fluctuations of its unstable jelly-like substance. These fluctuations are themselves no doubt excited by the stimulating effect of the food it has taken in, but this is not an argument in favour of M. Ferrero. The apparent dilemma that food becomes nourishment only through the digestive activities of the organism and that these activities are made possible only through the stimulating effects of food, is not for the psychologist to solve. The biological fact is that the spontaneity of the organism and the dependence of this spontaneity on food supply are always found together. M. Ferrero seems, by implication, to ignore the fact that so long as the stimulus is 'external,' it cannot affect the organism in any way, and that the irritability of the organism is needed in order to make the stimulus effective. But this irritability is precisely the sign of the non-inertness of the organism.

What is true of the amœba is true of all organisms. Spontaneous movement and assimilation of food are found everywhere, *e.g.* in the human fœtus, to be inseparable concomitants. In so far then as life is prior to consciousness, does spontaneous movement precede sensuous perception. The impulse to action, as Höffding says,[1] 'is given before the consciousness of the actual world and cannot be derived from it'. In a word the purely biological fact of spontaneous movement precedes the psychical fact of sensation.

We start our psychical life with inherited tendencies to movement, and these of two kinds; (1) the definitely coordinated congenital activities, usually called instincts, and (2) those random, undifferentiated impulses to movement which, in virtue of a certain inherited organic plasticity, are perhaps the most effective factors in the acquisition of individual experience and skill. Consciousness comes obscurely into being amid the play of inherited instincts and inherited impulses.

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[1] *Outlines of Psychology*, p. 310.

A state of vital activity, then, precedes the advent of Consciousness. How Consciousness associates itself with these inherited activities I am not prepared to say. It is a metaphysical problem, though the most simple statement of the facts themselves seems to me to be that when certain vital conditions are realised these activities become consciously active. Consciousness would then be aggressive from the outset, a conscious striving. But the main question for us is whether mental process as Psychology has to consider it, is a process that seeks to further these original activities, to satisfy inner needs and cravings, or a process that needs the constant influx of fresh stimuli to keep it going at all. All the facts seem to point to the conclusion that there is a spontaneous call for the stimulus on the part of the conscious organism, not a mere grudging response to the merciless pricking of the outer world. Were the latter the case it is hard to see how natural selection should not by this time have devised insulating sheaths for the sense-organs so as to preserve intact the sanctity of such a fundamental tendency.

I can only concede this much of truth to M. Ferrero's position, namely, that apart from stimuli we should have no sensations. But this points not to inertia but to an indissoluble co-operation between organism and environment, for it is equally true that apart from a certain appropriate activity of mind, the stimulus would be a mere blank sequelless physical change. Attentive mental process does not then mean a compulsion to feel interested in despite of natural propensity, but an interest that is at least spontaneous, often voluntary. Mental Exuberance, if you will, but not mental inertia.

The collapse of mental inertia as a principle of Psychology brings with it the confusion of the daughter-principle, that of Least Effort. Once we admit with Lloyd Morgan 'the restlessness, the exuberant activity, the varied playfulness, the prying curiosity, the inquisitiveness, the meddlesome mischievousness, the vigorous and healthy experimentalism of the young,' it is a far cry to the lotus land of Least Effort. Moreover, I consider there is a fundamental confusion in M. Ferrero's treatment of the subject. I would fully admit the inherent antipathy to constraint, even to control, as a mark of all activity that is restless and exuberant. The apologist of a principle of least discipline might bid for a good hearing. But it is just the natures which revel in superfluous efforts that are the most averse to constraint and discipline. The Vandal may have a horror for work, *i.e.*, for such forms of activity as cramp his restless energies into orderly grooves, but he has no objection to making the most strenuous efforts at hunting and killing, looting and drinking. We must surely distinguish between the least effort of inertia and the least disciplined effort of exuberance.

The illustration which M. Ferrero draws from social evolution involves similar confusions. Leviathan moves slowly as we all know but it does not follow that he has been sparing his efforts. A climb up a slippery height takes time, not because one's exertions are less, but because one is apt to lose almost as much ground as one gains. There is nothing to show that the small advance made at any time doesn't represent the difference between the results of a great effort in a forward direction and an equally great effort to avoid being pushed back by circumstances beyond the point one started from. Moreover even if the fact of slow but continuous progress in one direction is accepted, the slowness of the advance may well be a sign not of least effort but only of least hurry. We should distinguish between a spurious and a genuine conservatism. The body politic like Wordsworth's cloud tends to move together, if it move at all. This is the true conservative tendency to avoid plunging too far forward in any single direction at the expense of the other connected interests of a complex organisation; but the conservative is not necessarily a lazybones. It is surely not in the service of Least Effort that the wheels of God grind slowly.

M. Ferrero's illustration turns out as we see to be a negative instance confirming the fundamental psychological principle of the tendency to cumulative activity. If a system of politics or of science proves faulty, it is modified, but no further than the defect requires. It is supplanted by another system involving another principle of unity only when its cumbrousness is more burdensome than the consequences of its removal. Thus the Ptolemaic system of the heavenly movements went on accumulating its epicycles and excentrics for a century or two after the outraged astronomer-king made that costly declaration—for it is stated to have cost him his throne—that had the Almighty only seen fit to consult him at the Creation, things would have been managed more simply. Even the Copernican change when it came was not a complete wrench from the old order of things. It only did away with the first main presupposition of the Ptolemaic system, to wit that the earth was certainly at rest and the celestial movements observed, the real movements; it left unchallenged the second main presupposition that the heavenly bodies were divine and incorruptible and must therefore move in circles. Even Kepler himself, to whom the refutation of this hoary prejudice is due, only refuted it by following up into its consequences a presupposition that was strangely similar to it, namely that the Creator must have been a geometer, and that the orbits of the heavenly bodies must have been arranged if not on a circular, then on some other geometrical pattern.

This tendency not to renew where it is possible to modify and not to supersede where it is possible to renew is an indispensible condition of all continuous growth. The abrupt supersession of one system or one interest by another would mean discontinuity of growth and involve a violation of the fundamental principles of mental development. But to take full advantage of accumulated experience in any direction is not a matter of Least Effort, but a matter of continuous interest. Interest implies a concentration of conative activity either for the breaking down of obstructions or the furtherance of success. Where we are genuinely interested we lavish our energy, the interest is in fact a sign that powers of ours have found suitable material, that some hungry expectant activity sees a chance of getting food.

Are we to conclude then that the principle of Least Effort has no place among the fundamentals of Psychology? As a positive principle of mental development I should unhesitatingly condemn it as a fiction that totally misrepresented the facts. Attentive mental process means striving to know and do, not striving to know and do as little as possible. But it cannot mean a striving to know and to do everything. This would involve a dissipation of interest that could only succeed in disintegrating, instead of building up, the Unity of Consciousness. The greater the persistency, indeed, and the intensity, with which any single interest is followed up, the greater the indifference to what we may call alien or outlying interests. Hence I should be fully prepared to admit as a negative principle of Psychology the law of Relative Inertia or Relative Least Effort, if by this is simply meant the fact that attentive mental process involves a complete lack of interest in whatever is unrelated to the process, and that when once interested in anything we give no attention except under compulsion to whatever distracts us from that interest, and that if compelled to give a certain attention, we give the minimum and that grudgingly.

Relative mental inertia in any direction means then complete lack of interest in that direction, and it is clear that where such complete lack of interest exists there will be a tendency to make as little effort as possible. And this is a *genuine* case of least effort, for by least effort here is not meant the effort to set aside the uninteresting intrusion as speedily as possible by doing just what is most essential and leaving the rest, but the lazy inclination to get rid of the duty anyhow, to spare effort of brain as well as of hands. If the discomfort produced by the feeling that a certain work is being left undone is more disturbing than the actual doing of it would be, the work is done. If the effort to resist the pressure of some external compulsion is greater than the effort entailed in acquiescence, the work is again done. Otherwise endless postponement, and the relapse of least effort into complete relative inertia.

It is important to emphasise this word 'relative'. The absolute inertia of M. Ferrero is a physiological disease. It implies an inability on the part of the organism to give expression to the natural functioning of psychical activities. If this organic defect is credited to the mind as its characteristic feature and the principle of least deflection from absolute inertia transformed into the formative principle of psychical activity, Psychology becomes nothing more nor less than a department of the more general science of Pathology. Relative Inertia is a fact that in no way requires this obverted relationship of the two sciences, for it exists only in virtue of concentration of interest along normal channels of mental activity. We are relatively inert not because we object to the making of an effort, but because we object to the abrupt transference of effort from one direction to another. We may thus willingly admit that we are, as psychical agents, relatively inert and make the least effort possible in every direction except that in which we happen to be exercising our normal activities, but we must hasten to add that it is only in the one excepted direction that any mental development takes place.[1]

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[1] It is a significant fact that the principle devised by M. Ferrero for the elucidation of the psychical life corresponds very closely to the fundamental principle of mechanics as enunciated by Hertz. Hertz's primary law of mechanics is to the effect that were the connexions of a mechanical system momentarily severed, the various masses would each and all pursue some rectilinear path with uniform velocity, but that as such a severance is not possible, the masses in their actual movements all tend to deviate as little as possible from this their free and natural form of motion. 'Every free system persists in its condition of rest or of uniform motion in a straightest possible path.' This is a combination of the laws of Inertia and of least deflection from Inertia when under constraint. And this is also M. Ferrero's psychic principle.

In our treatment of the conception of mental inertia we have reached the following main result. The positive aspect of that continuity of Interest which gives primary unity to Consciousness is essentially an effort at self-realisation, but this positive conation implies a corresponding negative, namely, relative inertia. Relative Inertia is as essential to the unity of mental growth as is continuity of Interest each is in fact implied in and limited by the other. The principle of Least Effort may be taken as the abstract negative expression of the unifying principle of mental development in this sense, that mental progress depends on the elimination of all interests that are alien to the interests that give unity to the mental life, and a renunciation of all free effort on behalf of these eliminated interests.

IV.—The Principle of Facilitation (in the Light of Certain Logical Distinctions).

In dealing with Facilitation as a so-called principle of mental process, I propose to deal with two conceptions of lessening effort, the one abstract and negative, the other concrete and positive. In dealing with the former I shall lay special stress on the limitations imposed upon the principle by its abstract character, and I hope to show, in dealing with the latter, that the positive, concretely conceived conception of lessening effort may when rightly interpreted, be identified with a most fundamental and fruitful conception in Psychology.

If we consider the two essential processes that go on simultaneously in every complete process of mental development: (1) the *elimination* of the random, unserviceable and irrelevant in experience, and (2) the *elaboration*, through mutual adjustment and co-operation of what is relevant; and if further our way of considering these processes is to fasten on some abstract common element and raise it in virtue of its extreme generality to the rank of a unifying principle of mental process, we fall in my opinion into the most grievous error. For we identify the result of one or more successive processes of abstraction, the so-called abstract universal with the result of a comprehensive synthesis based on a previous thorough-going analysis, the so-called concrete universal. And the principle, whether abstract or concrete, bears its birth-mark stamped upon it. A product formed by mere abstraction is a product possessing the same abstract kind of generality which is proper to the concepts from which it is abstracted: it is only fit to stand above them in a classificatory system. If adopted as an explanatory principle of the concepts from which it is abstracted it is set to achieve the impossible, for how can a explain $a + b$ and $a + c$? How can the abstract element common to elimination and elaboration, the element of lessening effort explain either the processes of elimination or of elaboration? It is true that effort is lessened as in the formation of a habit both by the elimination of irrelevant movements and the elaboration of the relevant, but it is equally lessened whatever be the irrelevancies eliminated or the nature of the elaboration provided the net result is the same. And this is the inevitable outcome of introducing into Psychology principles of an abstract, quantitative cast: these abstractedly derived principles of number and magnitude cannot explain qualitative distinctions and purposive elaborations. It is emphatically true here that what is gained in generality is lost in explanatory power.

The concrete universal, on the other hand, is the pure fact itself as reconstructed in the mind. It is a coherent mental structure. In forming it we start, not from abstract concepts, but from the fact itself, analyse the fact, eliminate what is unessential for our purpose and reconstruct the remaining elements into a complex coherent whole which is what we call the concrete universal—a purified, purposive reconstruction of some aspect of real fact. The concrete universal, further, is that reconstructed conception of an actual fact which supplies a coherent context in the light of which the various elements of the analysed fact receive a certain fulness of meaning of which they are incapable when considered apart from that context. It is not necessarily the articulated thought-structure representing a realised ideal. At any stage of its growth the fact of mental process have represented, after the proper analyses and syntheses can be been gone through, as a concrete universal.[1]

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[1] If we ask ourselves what is the animating principle that gives to the concrete universal such coherency as it may be capable of possessing, and having discovered it or one aspect of it abstract it in idea from the processes which it systematises, so that it stands apart abstracted from that which it unifies, we obtain what I should like to call, in opposition to the *mere* abstract universal already alluded to, the *true* abstract universal. The true abstract universal differs from its maimed and artificial counterpart (1) in its *genesis*, for it is only abstracted after the necessary analyses and syntheses have been made, whereas the *mere* abstract universal is derived not from a process of conceptual analysis

The abstractly conceived principle of lessening Effort is thus in no sense a *formative* principle of mental development in the sense that a psychologist can deduce from it the way in which psychical processes are elaborated, even as the mathematician deduces from the physical principle of Least Action the actual paths that moving bodies must take. It may be a guiding thread or clue,[1] but a clue is not a formative or synthetic principle. The thread of Ariadne cannot explain the killing of the Minotaur, it cannot explain the sword of Theseus. It cannot even explain how Theseus found the Minotaur; it can only explain how he found a safe way back through the labyrinth. So it is with the abstract principle of Facilitation. It cannot explain either the actual discovery of psychological principles and laws, nor does it supply from its armoury any weapons for attacking them. It can only guide the psychologist over ground that he has already covered, and at best serve him as an analytical principle of rearrangement. Thus we might conceivably systematise the subject-matter of Psychology by answering in detail the following question: 'What are the conditions that facilitate the exercise of the various psychical activities, retention, reproduction, discrimination, association, etc.?'

The illusive explanatory power of an abstract product of this sort is due to its undeniable generality, to the fact that the common element it expresses is a general characteristic of the whole process in all its parts. Be it elimination or elaboration, lessening of effort does take place. The inference is then made that it must therefore be an essential factor in mental process. This may possibly happen to be the case, thus it might have happened to be true that the direct impulse or aim of mental process was at all costs to lessen

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and synthesis, but from a process of mere comparison; (2) in its *function*. The true abstract universal, as could be inferred in advance from its mode of genesis, is explanatory, and is the genuine universal of all abstract Science after it has reached the explanatory stage. The mere abstract universal is at best descriptive and is the universal proper to a system of classification. In illustration of these distinctions we might take the two processes of elimination and elaboration as they take place in mental development. A mere abstract universal stating an element these two processes share in common we have found in the abstract conception of lessening effort. A true abstract universal giving unity to the two processes as they actually take place might be found in Control, when by control I mean the reinforcing or inhibiting of motor tendencies, ideal or corporeal, in view of satisfying some desire or carrying out some design. In elimination, Control exercises its inhibitory function, in Elaboration, its reinforcing function.

[1] *Cf.* Helmholtz, *Über die physikalische Bedeutung des Princips der kleinsten Wirkung*, pp. 142, 143.

effort, but there is nothing in the process by which the idea is suggested to prove that it is so. We can in fact only say that it covers the facts—not that it explains them. It is just as likely to be a mere common element in the results of the various processes concerned, and not a vital formative factor at all.

The true concrete conception of Facilitation derives its meaning and value from the correspondingly concrete conception of effort. An analysis of the fundamental fact of conation shows that it is essentially an effort to satisfy a felt need, and that when the need is felt no longer the effort ceases to exist. In finding ease it finds its own natural ending. 'Hunger disappears after a full meal; intellectual curiosity disappears when a problem is solved, and so on.'[1] The tendency of all striving is to pass out of effort into ease, and this can only be done through processes marked by a progressive lessening of effort. But the lessening of effort is here no longer abstractly and negatively conceived. It is to be understood only in the light of the coherent context of reconstructed fact, the product of conceptual analysis and synthesis. It is no longer a mere lessening of Effort and nothing more, a facilitation that derives all its meaning and worth from the abstract conception of facilitation, it is a process whose specific meaning and worth is entirely determined by its psychical context. It shares the full meaning of the mind's effort at self-expression, the vital factor which gives primary unity to Consciousness; it is the expression of the fact that we are ever endeavouring to express ourselves smoothly and efficiently, with the ease that means in the long run not only the appeasing of a passing impulse, but the complete satisfaction of a whole system of related interests. The principle of lessening effort is not a principle of lessening activity, but a principle expressive of the fact that the striving which issues in mental development is continually passing, through the subdual of resistance, into the frictionless, effortless activities that are effective in proportion to their ease.

This concrete interpretation of the principle of lessening effort puts a principle into our hands which makes intelligible the evolution of the spoken forms of language. In all languages that have shown any growth there has been a constant process of elimination and elaboration going on, word-endings and other dispensable parts of words being gradually dropped and the remainder being worked over in the direction of greater manageableness and agreeableness. Like every form of effort or motor activity, the motor service of speech shows a constant tendency to easy and effective utterance. It is probable that the pleasure felt at the harmonious co-operation of the muscles concerned, and the discomfort produced by difficult muscular combinations act as the guide of effort in the direction of motor ease. The process of the facilitation of pronunciation is sometimes spoken of as though it were a merely physiological process. I think this view ignores the psychical influences of comfort and discomfort. A certain muscular combination bringing a certain relief from effort is unconsciously stamped for repetition by the pleasure that it brings, just as the tendency to eliminate other combinations seems prompted by the corresponding discomfort which accompanies them.

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[1] Stout's *Manual of Psychology*, p 66.

This process of facilitation shows itself in many ways in the evolution of spoken language.[1] Let us take the case of the evolution of Latin into French.

(1) There is a general weakening of the Latin letters when they pass into French; thus the *c* and *g* pronounced hard by the Romans before *e* and *i*, as in *cedere*, *civitatem*, soften into *ç* and *j* sounds as in *ceder*, *cité*. Similarly the Latin *p* is softened into *v*.

(2) Letters in contact that do not represent easy vocal transitions are assimilated. Thus *dr* becomes *rr*; *e.g.*, *adripare*, *arriver*. But the inverse substitution of *dr* for *rr* never takes place.

(3) Recurring letters that produce through recurrence a hard effect have their hardness frequently softened through the replacing of one of them by a kindred but softer letter. Thus if a Latin word has two *r*'s, in French the pronunciation will be softened by the change of the one *r* into *l*, as *peregrinus*, *pèlerin*; *lusciniola*, *rossignol*. This is known as dissimilation.

(4) We have that displacement of a consonant which is known as metathesis. Thus *paupertatem* which in the Old French texts is met with as *pauverté*, becomes *pauvreté* by metathesis of the *r*.[2]

All these changes follow what M. Brachet calls the Law of Transition. 'Permutation,' he writes,[3] 'moves on step by step, and never more than one step at a time. A letter does not at a bound change its order, degree, or family; it can only make one of these changes at once'. And he adds: 'The classical *putrere* did not turn at once into the French *pourrir;* it passed in the Merovingian Latin into the forms *putrire*, *pudrire*, and in Old French through the successive forms *podrir* and *porrir*, whence finally *pourrir:* the *tr* had to become the intermediate *dr* before it reached *rr*.'[1] Whitney gives the physiological reason for this when he points out that 'one sound passes into another that is physically akin to it, *i.e.*, that is produced by the same organs, or otherwise in a somewhat similar manner.'[2] All this mutual adaptation and adjustment of sounds may with great truth be referred to a guiding principle of *ease* or *facilitation*, provided (1) the principle is understood *concretely*, in which case the impulse to ease is no other than the impulse to the harmonious play of effort, the impulse towards pleasurable forms of activity; and provided (2) the principle is not confused with the principle of economy. The impulse to ease with organic pleasure as its guide is doubtless the primary impulse whence the ideal of economy springs, but it is no more economy than unity of interest is unity of acquired meaning or skill. It is shortsighted and therefore often wasteful in its results. Thus, as Whitney points out, in such words as *ongunnon*, begun; *pluccian*, to pluck; *etan*, to eat; the lost final syllables are those which showed the grammatical form of the words, being plural ending and infinitive ending.

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[1] *Cf.* Baudry, *Grammaire Comparée*, pp. 85, 86.

[2] *Cf.* Brachet, *Etymological French Dictionary*, Introduction, pp. xcvii.-xcix.

[3] Quoting from M. Baudry's work, *Grammaire comparée du Sanskrit, du Grec. et du Latin*, p. 83.

The impulse to ease in the performance of work finds expression through that same cumulative process which we have seen to be so eminently characteristic of the continuity of mental growth. The reward of a difficulty overcome is, as we know, a greater ease in overcoming the next. There could be no facilitation, no easing of effort, were not the products of past achievements instrumental in, so to speak, pointing out to effort the way of ease.

V.—The Principle of Economy.

We proceed now to a brief examination of that form of the Principle of Least Action usually known as the Principle of Economy, the principle of obtaining the maximum of result with the minimum of effort.

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[1] *Cf.* Brachet, *id.*, p. xcix.

[2] Whitney's *Origin of Language*, p. 58.

The principle has to-day at least two accredited champions, Mach and Avenarius.[1] Mach has set it up as the fundamental principle of scientific thinking; Avenarius has claimed for it the leading place among the principles of Philosophy. I shall content myself with a brief attempt at estimating the real significance of these claims from our present point of view.

We should note, in the first place, that we are no longer dealing with a tendency, but with a deliberately entertained scientific ideal, and we have to consider whether the principle of Economy can be considered as a principle of the Unity of the Scientific Consciousness, and if so, in what precise sense.

Now we may say that the activity of the Scientific Consciousness takes place mainly in one of two ways: either in the work of discovery or in the work of systematising what has been discovered. The work of discovery, according to Mach, must be in conformity with the principle of cumulative activity. The object must be given time to unfold itself before the observer, *i.e.*, the observer must be continuously utilising his previous impressions of an object in order to penetrate more deeply into the meaning of the object: only in this way can the phenomenon exercise its full effect on the mind. This cumulative aspect of the principle of Continuity does not, however, impress Mach so much as the principle of Continuity itself. What he means by continuity may be gathered from the following extract: ‘Once we have reached a theory that applies to a particular case we proceed gradually to modify in thought the conditions of that case, as far as it is at all possible, and endeavour in so doing to adhere throughout as closely as we can to the conception originally reached’. ‘There is no method of procedure,’ he adds, ‘more surely calculated to lead to that comprehension of all natural phenomena which is the simplest, and also attainable with the least expenditure of mentality and feeling.’[2] So elsewhere he writes: ‘The principle of Continuity, the use of which everywhere pervades modern inquiry simply prescribes a mode of conception which conduces in the highest degree to the economy of thought’.[3]

Cf. H. Cornelius, *Psychologie als Erfahrungswissenschaft*, p. 84; *cf.* also William James, *Principles of Psychology*, vol. ii., pp. 183, 239, 240; *cf. Text-Book of Psychology*, pp. 344-345.

[2] Mach, *Science of Mechanics*, p. 140 (translated by J. McCormack). See also on this question Mach, ‘The Economical Nature of Physics’ in a volume entitled *Scientific Lectures*.

[3] Mach, *id.*, p. 490.

The subordination of the fundamental principle of Continuity to the principle of Economy, implied in these last words, and indeed in Mach's statements generally, seems to me to be psychologically incorrect. That Knowledge should proceed gradually from the known to the unknown is surely a more primary consideration of the man of science than that the mentality and feeling of himself or others should be spared. Economy seems here to be rather the happy effect of Continuity—not its final Cause.

The systematic activity of the Scientific Consciousness is again, to my mind, dominated by the principle of Continuity. This is shown in the deductive form all such systematisation takes. The mechanics of Lagrange which Mach refers to as a stupendous contribution to the Economy of thought[1] is the classical instance of the deduction of a science through the continuous application of a single principle. Mach himself points out the fundamental importance of this principle in the deductive development of the system of mechanics, but here again he subordinates the principle to that of Economy. 'Mathematics,' he says, 'may be defined as the Economy of counting,'[2] and adds: 'It is the method of replacing in the most comprehensive and economical manner possible new numerical operations by old ones done already with known results.'[3] Perhaps his most explicit recognition of Continuity and the cumulative factor it involves is given when he tells us that 'the object of all arithmetical operations is to save direct numeration by utilising the results of our old operations of counting'.[4]

But though the deductive instinct seems to me to be a more fundamental instinct of the scientific consciousness than the instinct for economy, it is undoubtedly true that the scientific consciousness does deliberately set itself to economise labour by such devices as that of abbreviation. This is due to obvious considerations of time and memory. Mach, indeed, lays the very greatest stress on this fact. 'Within the short span of a human life, and with man's limited powers of memory, any stock of Knowledge worthy of the name is unattainable except by the greatest mental economy; science itself, therefore, may be regarded as a minimal problem, consisting of the completest possible presentment of facts with the least possible expenditure of thought;'[5] and Mach further points out how, in mathematical science, the whole system of symbols, semimechanical devices, *e.g.*, determinants, and finally calculating machines are all devised in the spirit of this conviction.[1]

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[1] Mach, *id.*, p. 467.
[2] *Ibid.*, *id.*, p. 486.
[3] *Ibid.*, *id.*, p. 195.
[4] *Ibid.*, *id.*, p. 486.
[5] *Ibid.*, *id.*, p. 490.

As regards Mach's general position in this matter, while we must allow the truth of the fact that 'Physics is experience arranged in economical order,'[2] we do not consider that he has touched the heart of the matter when he says that 'the goal which physical science has set itself is the simplest and most economical abstract expression of facts'.[3] We should be much more inclined to agree with Descartes in making an essential point of the deductive method of inquiry and laying only subordinate though still very strong emphasis on the necessity of economy.[4] And this is to give continuity the primacy over economy.

With Avenarius[5] the principle of economy, or, as he puts it, the principle of least expenditure of force, is the guiding principle of Philosophy. It is (1) the principle from which philosophy springs, *i.e.*, in pursuing that principle into its consequences we are led to Philosophy, and further, led to Philosophy of a certain kind, for (2) it is the principle which determines the central problem of Philosophy, the attempt to unify the world under one general concept; (3) it is the principle which, rigidly carried out, determines the structure of Philosophy; and (4) it is the principle which inspires the methods of Philosophy.[6]

The characteristic of philosophic thought that brings it thus under the law of economy is its essentially conceptual nature. By this is meant specifically the subsuming of presentations under general notions, and, more generally, the apprehension of the unknown in terms of the known. The latter process is characteristic of all apperception whatsoever, the former, in its fulness, of Philosophy only, for it is only Philosophy that carries the process of subsumption to its natural issue, it is only Philosophy that seeks to bring the object of its thought—the world—under one general concept.

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[1] Mach, *id.*, pp. 487, 488. [2] *Ibid.*, *id.*, p. 197.

[3] *Ibid.*, *id.*, p. 207. [4] *Cf. Regulæ*, xiii., xiv., xvi., xviii., xx.

[5] *Philosophie als Denken der Welt nach dem Princip des kleinsten Kraftmaases*, Leipzig, 1876. A brief but excellent summary of this treatise can be found in Mind O.S., vol. i., p. 298; it is also summarised and discussed at greater length in a leading article of the *Literarisches Centralblatt*, 15 (1876); *cf.* also *Revue Philosophique*, 3e Année, p. 216.

[6] *Cf.* Avenarius's own introduction to his *Critique of Pure Experience*. It is a significant fact that the principle of economy which so dominates the *Prolegomena* should be completely ignored in the *Critique* itself. The inference is that in serving the abstract office of a '*Leitfaden*' or guiding clue to the most economical conception of experience its real value had been exhausted, but this, of course, is not the meaning of Avenarius in dealing with the principle.

Avenarius points out at some length that these two characteristics of apperception are both essentially economical processes,[1] and as they are, taken together, peculiarly the processes proper to philosophic thinking, Philosophy has its roots in the principle of economy.

The main objection I would make to the reasoning of Avenarius is that it does not appear to me to be founded on a true psychological analysis. Avenarius proves fully, and often most ingeniously, that an element of economy is to be found in all the various specific processes he treats of, but he does not prove what he avowedly aims at proving—that conation in its theoretical aspect as apperception is a striving to think economically. The element of economy that he invariably discovers is not shown to be the element that dominates the striving, and this, in my opinion, renders the whole argument artificial and misleading.

As a typical instance of the method of Avenarius, let me take the following. After pointing out with true psychological insight that in systematic thought we have (1) the domination and continuous application of a central idea; (2) a perpetual strengthening of the meaning of the interconnected ideas through their connexions with one another and the central idea; (3) a facilitation in applying the idea brought about through constantly applying it, he adds: 'These are, collectively, effort-saving considerations'.[2] They undoubtedly are, but they are also the considerations for effective, *i.e.*, successful work, and success to the striver is of much more importance than economy. Avenarius cheats us throughout by presenting us with an abstract universal, a uniformly present common element, in the place of the concretely determined universal. Economy *per se* is a mere formal principle, and as such incapable of determining its own limits. Let us take the case of Descartes' treatise on Geometry. Its conciseness is such that even Newton found it hard to master. Descartes confided to a friend that he had purposely abbreviated the solutions in order that critics might not say to him, 'Well, any one could have discovered that'. Here we have the most rigid economy, from the quantitative point of view, the maximum number of solutions with the minimum outlay of means. But this is not the economy that gives value to science. What is wanted is not economy in the abstract but a wise economy, *i.e.*, an economy limited and defined by the more fundamental consideration of effectiveness. A wise economy implies the keeping the end in view so steadfastly that only such means are employed as the end requires for its attainment; it means putting essentials before accessories according to a principle of Order; it means the keeping of Economy within the limits of clearness, so that there shall be no obscurity due to economising what is essential or relevant, and no obscurity due to the intrusion of the accidental and irrelevant. The true nature of economy is given only in the light of the more fundamental requirements of clearness, continuity, method, and it is only in subordination to these that it finds its true meaning.[1] Descartes saw all this with masterly clearness nigh three centuries ago. He realised, with true mathematical instinct, the value of the economy of thought, but he gave it its true subordinate place. Above all clearness as to one's starting-point, then method, lastly economy in the application of the method.

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[1] Avenarius, *id.*, p. 10: 'The impulse to apperceive is nothing else than the endeavour of the mind to economise its force'.

[2] Avenarius, *id.*, p. 6.

I do not pretend to have done full justice to the admirable, though unsatisfactory treatise of Avenarius. But I am convinced that its merits whatever they may be cannot save the principle of Economy from being relegated to a second rank among the principles that express the unity of the Scientific Consciousness. What is fundamental in the Scientific Consciousness is not a striving after economy, but a striving after Clearness, Method and Fidelity to Fact. It is the effort to think clearly and deeply that yields the economical virtues of simplicity, relevancy and precision.

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[1] On the directionless character of all these abstractly conceived principles, with special allusion to the principle of least action or least resistance, see James Ward, *Naturalism and Agnosticism*, vol. i., pp. 205, 275; vol. ii., pp. 26, 88, 290.

IV.—THE NORMAL SELF: A SUGGESTED FORMULA FOR EVOLUTIONARY ETHICS.

By R. R. Marett.

To Plato and Aristotle, working upon a suggestion derived from Socrates, we owe the formulation of the logical method of Definition. Definition implies a static view of phenomena. Its interest in them relates entirely to that aspect wherein they are stable, complete and self-consistent. The canon it employs, the form of knowledge on which it insists, is, in one word, *εἶδος*. Hence its natural affinity is for abstract sciences like Formal Logic and Formal Mathematics —the sciences, be it remarked, that lay more immediately within the ken of the ancients. To an abstract-concrete science like Chemistry it likewise applies well enough, if all considerations pertaining to the concrete study of the chemical problem be duly kept apart from that abstract aspect whereto the scope of the method properly confines it. Inorganic Chemistry, for instance, save in so far as it deals with 'allotropic forms' or what not, is able to put forward its definitory formulæ as formulæ with a brave show of absolute assurance. To Organic Chemistry, on the other hand, and more especially to that branch of it which is nowadays coming to be known as 'Biological Chemistry,' it is constantly being brought home by the hard logic of fact that the strictly chemical or abstract view is quite inadequate to a satisfactory comprehension of the problem as it appeals to the man of science lurking behind the pure chemist. Accordingly, when we have to do with an evolutionary science proper — for instance, with a concrete science like Biology as opposed to an abstract-concrete science like Biological Chemistry—the Method of Definition seems at first sight to break down altogether. A new method comes into prominence—the Method of Discovery —implying a view of the facts studied which primarily at any rate is dynamic. No science, however, that would truly be concrete, could afford to limit itself to a merely dynamic view. Nay, it is absolutely essential to Discovery as a logical method that it should actually be preceded by 'definitions' so-called. In other words, the methodological assumptions from which and by the help of which it proceeds to grapple with the unknown—that is to say, its 'leading questions,' which as presumably intelligent questions must be already answered in part—are most naturally and succinctly expressed in the shape of a certain number of tentative formulæ giving precise conceptual expression to wider or narrower pieces of alleged fact. Further, the 'answers' of the science which are actually answers in point of form, namely its much-prized generalisations or discoveries, must themselves in turn be 'defined,' that is, reduced to a relatively determinate and 'workable' consistency, if they are to serve as the stepping-stones to fresh discovery. Here, then, is a twofold need for the aid of the Method of Definition. It may be objected that neither the question-answers nor the answer-questions thus temporarily posited are definitions in the strict sense; that on the contrary they are mere descriptions—'generalisations,' if you will, but never 'universalisations'. That is quite true. At the same time evolutionary science has no cause to abandon the search after εἶδος for any such reason. Thus if the votary of Formal Science claim that he alone is able to put this ideal to a really successful use, the retort is handy that he attains to his boasted consistency merely by a magnificent effort of abstraction—by ignoring once for all the fact that his thought is the outcome of a process of thinking. Moreover he ought to be the last person to deny that the formulatory canon employed in Abstract and Concrete Science alike is not merely similar but identical. Let the correlativity of the two great methods of research be therefore admitted, and made the ground of a resolve to combine their use so far as such combination may be possible. Evolutionary Science must be allowed its formulæ or definitions (in the qualified sense), and its Methodology must recognise a (would-be) Formal Part the function of which is to give stability and concentration to the discursive speculations of its (never merely) Material Part.

Now Ethics is, or ought to be, a concrete science in the fullest sense. It is certainly no mere branch of Introspective Psychology, however much the academic mode of treatment till lately in vogue may have done to popularise the notion; nor indeed if it were to be identified as a science with its introspective side could it be termed 'abstract' in the sense that Formal Logic is abstract, that is, rendered independent of process once for all. On the contrary, it is on the face of it a science of 'bridge-work'. It embodies the effort to synthesise inner and outer, character and conduct, psychological condition and 'environmental' condition; or, failing that, to unravel the tangle of action and reaction by a double system of clues. Hence in its dominant aspect Ethics is 'evolutionary'. Now this epithet stinks in the nostrils of many respectable persons, but not on account of its strictly scientific or philosophical connotation. After all it is but a word. 'Material' or 'Comparative' are words approved by an older generation that will serve the present purpose equally well. We cannot without self-contradiction conceive of the cosmos as *being* an evolution—a genesis. On the other hand it palpably has features that are genetic; and Ethics primarily examines certain of these. A purely evolutionary or material science of Ethics, however, could not, as we have already seen, exist. However concrete, however comprehensive of nature in its variety and flux, it may aspire to be, it needs a Formal Part to keep it stable and self-centred, not indeed by dwelling on the few bare transcendental points wherein human morality would seem to remain untouched by process altogether, but rather by keeping in line with ethical discovery and giving 'form' to its results so as to enable these to be the more readily utilised as a means for procuring fresh knowledge and for bringing the latter in its turn into formal consistency with ethical thought as a whole.

Or to go into the Methodology of Ethics a little more fully—a subject by the way that has for the most part been unduly neglected by moral theorists—I would not have the Formal Part of Ethics confounded with that Metaphysical Appendix to Ethics, as it might be called, which may conveniently be allowed to supplement its shortcomings as a particular science by suggesting grounds for some 'larger hope' based on considerations commensurate with human science as a whole. Thus for example to endeavour, as Aristotle does, to summate the particular ends of the moral life—the particular this and that good object which practical reason sets before us—by representing that life as a process of trying to become, as far as a man can, like, or one with, God is simply to point beyond the horizon of ethical science as such to a region where time-conditions cease to count; and the philosopher therefore very properly reserves his investigation of the nature of God—the εἶδος εἰδῶν—for a work dealing specifically with those problems which have ever since been known by the name of 'metaphysical'. So too Kant when he seeks to establish the nature of that which is good without qualification is, so far indeed as he actually succeeds in his intention of characterising this good without reference to the *a posteriori* or material complement required for its realisation or rather, if one might coin the word, phenomenalisation, completely ultra-scientific or metaphysical in his mode of conceiving the ethical Norm, and cannot strictly be said to have made herein any contribution whatever to Ethics in its distinctive capacity of a science. I am not denying that ethical practice presupposes the existence of a universally Desirable in common with all practice, all exertion of the will, whether displayed in regard to conduct, to science, or to artistic production. I am merely asserting that ethical science, regarded as the specific mass of organised experience in the light of which—I do not say because of which—ethical practice is most rationally carried on, is not directly, or at any rate not primarily, concerned with this absolutely constant formal element, but must rather attempt to generalise the distinctive bulk of relatively constant content in the *ethically* Desired which makes it characteristically and exclusively that. In other words, the Norm actually contemplated and studied—not prescribed, for it is not the business of science to prescribe—by ethical science as such must always be a complex of more of less transitory features, idealised according to the perpetual laws governing all idealisation, but not otherwise of perpetual validity ; and this complex it will be an especial function of the science in question to formulate, that is, to reduce to relative form or consistency, by a survey and comparison of the moral ideals of man in their shifting variety and growth. The actual, that is, actually possible Best or Normal of the race—of you and me and the future generations, when all allowance has been made for the humanity common to us—is a progressive, or at all events a moving and altering, Normal. A fixed Normal may exist in ‘ heaven ’ or in that travesty of heaven, Mr. Spence's millennial state of absolute (though ‘ moving ’) social equilibrium ; but it is not for us. No man ever taught another *how* to amend his ways by dwelling on that bare concept. He might indeed have in some sense taught him *that* he must, though as it were indirectly by touching his emotions and firing his imagination. But this, though undoubtedly a good work even so, cannot be the work of Art so far as it is based on the sciences. Rather call it if you will the work of Religion—or whatever else you are prepared to call the ennobling effect of Metaphysics as it reacts on Life. The actual Best for us, then, loosely summating this Better and that Better as at any time it does and must do to the end of our finite existence, but remaining necessarily asymptotic with absolute Perfection, is so far from being equivalent to unqualified Best (as, for instance, formulated by Kant) that its very essence is composed of qualifications. In other words, it is compounded of mutually conditioning elements that whilst continually altering in their relations to one another yet display a relative stability of association in face of all the supplementary conditions represented by the rest of the universe that entitles the cohering mass to the rank of a so-called 'individual' Fact or Thing. Let us grant, therefore, that it is the function of ethical science as such to represent this 'thinghood' of *our* Best as concretely as possible by inductively establishing its essential conditions in contradistinction to those which fall naturally without the concept. Further, let us remember that for the purposes of a general formulation 'our' means 'human'. My Norm and that of my great-grandson will necessarily be more diverse in some features than in others; and it is the relatively constant features that the Formal Part of Ethics in proportion as it deserves the name will seek exclusively to define.

The 'Normal Self,' then, is a suggestion in the shape of a definitory, that is, generally descriptive, formula, which I venture to think is needed by the Evolutionary Ethics of to-day. I believe some such notion and term to be required to fix—to give a relatively stable and consistent shape—to a mode of thinking that now largely prevails, but, owing to lack of form, has hitherto failed effectually to supplant a rival piece of inadequate and therefore misleading doctrine which some years ago received classic designation at the hands of a no less brilliant writer than the late W. K. Clifford. I refer to his 'Tribal Self,' a specious concept that still figures conspicuously at any rate in the more popular 'evolutionary' text-books. Let me say at once, however, that the fault I have to find is not with his use of the term 'Self' in this connexion, but solely with the one-sided and unhistorical view of the Moral End that is introduced under the cover of the qualifying expression 'tribal'. However much the notion of such 'a self within a self' may cut across the tripartite division of mental factors commonly accepted by Psychology as its ground-plan of research, there can be no doubt that in Ethics it is highly convenient to work round, and as it were concentrate upon, some concept which by the very breadth of its framing draws attention to the organic complexity and inclusiveness of the inward moral life as objectified by us in the shape of a Norm for our possible attainment. Of course this is not the only shape in which the Ethical Norm may be presented. Thus the individual concerned with his own self-moralisation will tend to conceive it exclusively under the form of a new and higher Self; the 'moral legislator' under that of a scheme of outward acts; and the votary of ethical science, together with the practical moralist intent on a theory of moral education in the widest sense, under both the one and the other. Meanwhile of the two forms in question the one that represents morality as more intimately and as it were spiritually the concern of the personal consciousness is decidedly the more comprehensive, because it is the introspective evidence, though only when combined with the historical, that yields us the deeper insight into its peculiar 'thinghood'. Indeed it is truly a sign of grace in a writer of so pronounced a positivistic tendency as Clifford that he should thus make the idea of 'self-realisation' the rallying-point of his ethical system. It is, I repeat, a great merit and the mark of a sounder philosophy than many will be prepared to expect from him thus to strike the note of 'inwardness' at the commencement of an inquiry that professes to apply to morality precisely the same methods and canons of research as to any other subject of 'natural' science. By all means then let us follow him in thinking of *our* Best as a Self—a 'new man' to be put on in place of the 'old Adam'. It is therefore only the specific constitution of this Self that is in question now; in short, the adequacy of its alleged 'tribal' character as a general explanation of its 'normality,' of its ability and right to serve as the type of the most perfect moral manhood within our reach.

It may indeed be urged that it is no fair exchange to remove 'tribal' in order to substitute a comparatively colourless expression like 'normal'. 'Tribal,' it will be said, may imply a one-sided and unhistorical point of view or it may not, but at any rate it embodies an attempt to describe the phenomenal content of the Self; whilst 'normal' fails to invest the bare form of the Good with any specific character whatever, since the Norm is just the form in its regulative aspect. To this I would reply—firstly, that, suppose it to turn out later that the content of the Good Self always presents for us a mixture of characters, the term used to describe this content must at any rate be so colourless as not to connote one character rather than another; secondly, that the associations of the word 'normal' by no means restrict it to a transcendental context. Let me illustrate this latter point from the history of the kindred expression 'typical'. Pure type like pure norm is identical with pure form. In Biology, however, it is customary to use 'typical' as equivalent to 'racial' or something of the sort, that is, to use it to express the progressively selected character transmitted by inheritance in a real kind or species and regarded by science as the determinate 'biological end' of the members of that species. So too then in evolutionary Ethics 'normal' is constantly employed to signify 'selectively adapted,' though by a dangerous transference of thought the attribute of normality is too often attached to the passive instead of to the active condition, to the amorphous physical environment instead of to the morphological self-determining agency. Mr. Spencer, for instance, is especially given in Ethics and Biology alike to this fallacious mode of representing the adequacy of the typical organism to its surroundings as rather the result of a happy accident of circumstance than the achievement of the living thing coming into fuller being according to its own intrinsic law of development. Now in a strictly biological connexion, perhaps, it may accord best with the working hypotheses of the particular science involved to exclude all idea of any 'unconscious metaphysic' immanent in subanimate nature. In human Ethics, on the other hand, where teleological adaptation is an empirical fact that cannot possibly be ignored, thus to divorce normal action from norm-seeking action is bad science and bad philosophy to boot. Hence a 'normal' Self may, I think, by right of the natural associations of the word be taken to stand for a moral Self that in comparison with other competing, that is, actually possible, forms of moral selfhood is self-adapted, self-harmonised, both in regard to outer circumstances and to inward diversities of content; that contains, in short, the mixture of relatively adjusted characters which the good man as good and as mortal man displays in contrast to all other mixtures not so good. And this question of nomenclature settled, let us proceed from words to facts so as to define the general nature of this happy mixture as best we may in the light of comparative ethical science.

If I rightly understand Clifford's all too brief essay 'On the Scientific Basis of Morals,' the Tribal Self is sharply opposed by him to the Individual Self with the object of providing the ethical inquirer with his fundamental working distinction. This distinction is based on an alleged fundamental difference of origin. Now such insistence on Origins is the typical peculiarity of the Evolutionary Method as such; nor do I wish to quarrel with it. On the contrary

I hold it to be both inevitable and just, so long as the Origins to which appeal is made have been first genuinely established by the best available inductions, and have not been merely postulated *a priori*, or else borrowed from a sister science on to whose broad shoulders the whole responsibility for their truth is dexterously shifted. Now Sociological Origins such as a writer on Ethics may be presumed to have studied with some care do not, I contend, in the least bear out the fundamental character of the distinction at issue. Biological Origins, on the other hand, in the strictest sense—I mean, the history of the movements of the primordial cell in response to its environment—carry us so far back into the 'elemental prime' that physical and psychical grounds for any distinction of the sort are alike bound to vanish utterly. Somewhere comparatively high in the scale of biological progress—where the differentiation of sex begins, or else where the social animal proper, the member of the family or the pack, comes into view—there only, it is plain, can the rudiments of a Tribal Self as such be discovered ; and even here the extreme obscurity of this early period of natural history is bound to assist prejudice in giving the facts the 'twist' preferred. It is therefore rather on the sociological than on the biological evidence in support of the distinction which I should like to see substituted for Clifford's that I would lay chief stress. I am, for one thing, personally quite incompetent to lay down the law on any matter pertaining to Biology. On the other hand, I doubt whether there can be found any better guide than general probability when once we have plunged into what Edmond About would have called '*biologie crépusculaire*'. I feel, therefore, all the more justified in referring to a recent work of Mr. H. R. Marshall entitled *Instinct and Reason* as giving what is at any rate a fairly plausible account of the *provenance* of the Individual, Sexual and Social Instincts in Man, which, if true, would entirely stultify Clifford's postulation of an original bifurcation of tendency corresponding to the two kinds of Self that he distinguishes. Meanwhile, the biological hypothesis in question is likewise so completely out of harmony with the general principles of evolution as commonly conceived that even the mere philosopher may be pardoned if he venture to attack it.

The Tribal Self, according to Clifford, is the product of group-competition and the Individual Self the product of individual competition. Hence there may be presumed to lie at the bottom of this view the notion of discrete blocks, as it were, of instinct existing side by side in the organism for all time, to be severally carved and fashioned by semi-conscious and conscious agencies, but never to be fused or compounded, even partially, into a fresh whole. Now such a notion, I would venture to contend, is radically false and worthless. The evolution of instinct *qua* instinct would seem rather—and I think that Mr. Marshall is with me here—to resemble that expanding spiral so dear to evolutionary metaphor. Individual instinct (if so it may be called) coming first, it must on the subsequent appearance of the sexual instinct, be supposed to yield up a certain part of its peculiar character to be absorbed or at any rate in some sense appropriated by the latter. Then in its turn the sexual instinct including the portion of it that consists in transformed individual instinct will be drawn upon to provide some of the material, so to speak, for the social instinct which arrives to complete the ascending series. Thus the Individual Self that arises out of individual competition, and persists as such whole and untouched even when the social stage is reached, will have to be identified with that miserable remnant of individual instinct which has never entered into combination with the higher and more universal tendencies—truly 'the sifted sediment of a residuum,' to borrow a description applied by Clifford to something very different. But this is not the Individual Self of Clifford's Ethics or of any possible Ethics.

A glance at Sociological Origins as tentatively outlived by Anthropology will help to make this clear. Such a tendency as the 'fighting impulse,' rooted as it undoubtedly is in the primordial and purely individualistic element in our nature, is not as such debarred from contributing to the content of the social instinct—is not, as we may now put it, on that account ignored or rejected by society—but is utilised in the service of tribal defence, that is, of group-conservation. The spring of the fighting impulse nevertheless resides in a different part of the 'biological Self' to that whence comes the impulse that controls and regulates its activity. It is in fact at once self-regarding and other-regarding, at once bound up with the impulse to fight for pure self and with the impulse to think no more of self than of others. Nevertheless on the whole it must be judged to tend in accordance with its ultimate origin to be allied more closely with the former impulse. And now by way of contrast let us consider the instinctive tendency to be generous. Here again there are the two sides to be discerned, the side that flatters the self-esteem of the giver and the side that regards the interest of the receiver of the gift. In this case, however, the centre of emotional gravity, so to speak, lies decidedly on the latter, the altruistic, side. How then does the conscious or quasi-conscious force at the back of the external organisation of society confront this difference of bias, as it may be termed, between the individualistic and 'universalistic' tendencies? Surely the facts of Sociology all go to prove that it employs correspondingly distinct methods of getting the utmost use and value out of each as follows. The principle of social co-operation—to take the case first of the tendencies having primarily and characteristically an altruistic bias—it actively encourages by the founding of institutions intended to foster a normal observance thereof either by positive or by quasi-negative, that is, punitory means. On the other hand, as regards the principle of social, that is, of just and fair, competition, this, though in ultimate tendency likewise altruistic and therefore fraught with vital interest to society, is notwithstanding left, on account of its primary association with the individualistic proclivities, to the normal prompting of these proclivities themselves, unabetted by any considerable extraneous aid in the shape of the exhortation or praise of others. In other words, the members of society compete of their own accord for prizes that seem to come of their own accord to the successful. Meanwhile the ideal result of this twofold observance of principle, though due to quasi-independent impulses, will be not merely similarly but identically normal. By an allowable fiction, resembling that which makes the political sovereign 'command what he permits,' we may say that Society in its capacity of the external moral sanction ordains the struggle between its members within certain limits to a no less marked and important extent than within certain limits it forbids it. Normal moral action, then, as tried by this external test—a test which evolutionary as contrasted with purely introspective Ethics has assuredly no right to reject—is composed of action primarily self-regarding and action primarily other-regarding, and, according to the unanimous verdict of the ages, cannot afford to dispense with either 'moment'.

But what, it may be asked, if we prefer to appeal to the internal test of Conscience? May we not at any rate identify Conscience with the Tribal Self? The reply to this must be—Certainly not, if you understand by Conscience the 'Moral Sense' as a whole, that is, the Moral Ideal so far as it presents itself immediately in feeling. You may of course identify the two as Clifford does, if you retain his terminology with an altered meaning. The crucial point of difference, however, must remain between you and him that you cannot on the strength of this identification argue, as he does, that therefore there cannot be any self-regarding virtues. If the virtues be conceived, as they naturally must, as so many parts or aspects of the content of the moral ideal that actually governs man at any given time, then there undoubtedly do exist virtues that alike on the ground of their origin and on that of the characteristic fashion in which they make themselves felt in the moral consciousness must be pronounced to be primarily self-regarding. Or if on the other hand we consider rather the ulterior goal and destination of the virtues, then none of them can be said to be exclusively and merely other-regarding. It is indeed often the source of great confusion to the well-meaning person whose morality is largely unreflective, or—what is almost as bad—tinged with a reflexion borrowed from a school of philosophy that is out of date and false, that he cannot bring his perfectly fair and honest acts of competition, directed towards the attainment of what must normally prove 'a wider sphere of usefulness,' into comfortable harmony with the dictates of what he mistakes for his Sense of Duty ἁπλῶς. Now to constitute such a harmony, that is, to overcome the sense of contrast and actual opposition between the trend or 'pull' of the two sets of normal impulses that are severally individualistic and altruistic in 'bias,' lies of course entirely beyond the power of mere Feeling, however moral, and in so far as it is possible at all must be accomplished by the aid and under the direction of Reflexion, that is to say, of Reason—no mere instigator and supporter of anti-social selfishness, as Mr. Benjamin Kidd, and I am afraid Mr. Marshall also, would have us believe, but a sterling 'all-round faculty' with a scope and use as wide as the ideal purpose of human life as a whole. Thus it is Reason that alone is competent to provide us with the abstract conception of a life of Ego-altruism, as it may be called, wherein the claims of self are immediately and wholly satisfied by doing and suffering whatsoever the general good is held to demand. But such a 'philosophic life' considered as an actual possibility for man cannot be thought out; much less can it be lived out. Thought can reduce Individualism and Socialism to their greatest common measure, but it cannot entirely annul the disparity between these contrary 'points of view'; and so there are correspondingly rival 'pivots of motive' in the moral life that must always entail an even greater degree of internal discrepancy, inasmuch as motives owing to the element of 'slow' feeling that enters into them are intrinsically less adjustable than mere views. Meanwhile, if the man we are considering be forced to depend more or less on the guidance of Feeling—the necessary *pis-aller* of the *ἀπαίδευτος*—let him at least submit himself to the teaching of what I claim to be a sounder philosophy than that which identifies Conscience with the primarily 'tribal' or social impulse. Let him, in short, refrain from giving himself up wholly to a bare half of his Moral Sense, and pay due attention likewise to its complementary half, in other words, to his sense of self-justice, as it may be roughly termed, in order that the latter may balance and correct what he will otherwise be bound to accept as the voice of Conscience urging him to abnormal, and therefore actually immoral, self-sacrifice. Such a duality in unity, becoming ever less of a duality and more of a unity as the Moral Reason develops, is the true Conscience or Normal Self, by obeying whose dictates a man can alone make certain of fulfilling 'under normal circumstances,' as we say, his duty as moral subject and member of society.

But circumstances never are normal, it may perhaps be retorted. In order to meet this objection, let us remind ourselves of our assumption that there is always an actually possible Best for man at any point that we choose to take in the line of his moral evolution. Now ideally, no doubt, it is the function of Ethics in its capacity of Art to keep pace, as it were, with this temporary Best by anticipatorily describing the full character that it will be liable to assume if the capacities and opportunities of each and all concerned be utilised to their utmost. In practice, however, some rough method of averaging has to serve in place of an exact forecast. Thus the actual concrete Norm that Ethics prescribes at any moment can never be fully adequate to the circumstances that it is designed to meet. On the other hand, since humanly speaking we can have nothing better than this Norm to look to for guidance, we are naturally disposed to fortify our faith in the highest promptings of our nature by attributing the inadequacy, the want of perfect 'normality,' to the circumstances rather than to the Norm itself. Meanwhile the Science that lies at the back of the Art of Ethics is less immediately relative to the practical needs of the hour, and has a right to try to look at things, so to speak, *sub specie diuturnitatis*. Most notably does it aspire to do this when it is at its Formal or Definitory stage. From this its most widely speculative point of view, the Norm it considers is the abstract of the many norms that have actually been prescribed at one time or another. For Science as such has no better way of calculating the actually possible than this, its measure of human capacity being as regards the past based on its idea of the greatest success achieved, and as regards the future on that of this same success as modified by certain conditions as yet not given. Thus the features of the Norm that are selected for formal, that is, general, characterisation are precisely those which call attention least to its inadequacy in regard to the circumstances of this or that moment. If therefore it be found suggestive and convenient—as, I think, Clifford's brilliant handling of the idea has amply demonstrated it to be—to treat of this Norm as immanent in a distinctive Self or group of psychic activities, then such a Self may truly be described by Formal Ethics as *normal*—as embodying the norm or type of moral perfection that we ought to try to realise in our lives---not merely on ideal grounds, that is to say, in consideration of its final purpose—of what it would be if it could,—but likewise on 'evolutionary' or historical grounds, that is, in consideration of its actual capacity to provide man with a conception, true and sufficient as far as it goes, of *his* possible Best. This Best, as we have already seen, it presents in the general form of a progressive harmonisation of the two sets of radical tendencies that make respectively for justice to others and justice to the individual self. Given this general conception of an immanent moral Norm, it ought to be possible for Ethical Reflexion to furnish it at any given moment with a content of moral rules that should with a certain relative degree of accuracy and completeness accord with present needs. In other words, it ought to be possible to satisfy the respective claims of the co-operative and the competitive sides of healthy human nature in proportion as each is broadly justified by the actual state of society.

In direct opposition and contrast to the idea of the Normal Self will be that of the Abnormal Self as embodying all those tendencies which it is our moral interest to strive to suppress and annihilate in ourselves. Now we have seen that the Normal Self is not the product of a single group of instincts, nor again the outcome of the mere juxtaposition of the two main groups of instincts, the co-operative and the competitive, but is rather a complex of these instincts welded together into relative harmony by Habit, by Tradition, and—most characteristically of all—by Reasoned Choice. Accordingly neither must the Abnormal Self be sought in mere instinct, whether individualistic or otherwise. It is no exclusive product of Atavism so-called, but is the 'bye-product' caused by every possible kind of unfortunate variation, including various sorts of crazy and dangerous aberration on the part of Reason itself. Thus a man may be abnormally self-sacrificing in deference to a misleading philosophy no less than he may from one cause or another be abnormally selfish ; and the relative danger of a given person or body of persons succumbing to the one temptation or the other will depend on circumstances and conditions which it is the business of Ethical Science to characterise, and of the Ethical Art to guard against, with equal care. To discriminate right from wrong to the last detail must of course prove impossible for human thinking to the end. Meanwhile, to obtain a general insight into the essential nature of the good character regarded as a ' real kind '—an ἔνυλον εἶδος—must at any rate constitute the all-important ' first step ' towards such success as may be practicable.

Now the good character viewed in this light is always an actual possibility for man ; but is it necessarily so likewise for any and every man? This problem, I believe, in one form or another constitutes the *crux* of moral philosophy for the vast majority of its votaries. The reason of this, however, would seem merely to be that their interest in logic and metaphysics lags behind their devotion to the subject of conduct. They have not sufficiently reflected on the inevitable limitations of Theory, of our attempt to understand the nature of things, whether it take the shape of science or of Art and express its conclusions as indicatives or as imperatives. They ignore the fact that Theory in focussing its attention on this or that aspect of concrete reality is bound in every case to leave a great deal altogether out of account. But for the existence of this irrelevant residuum it is clearly Theory itself, and not the nature of things, that is to blame. At least we dare not suppose otherwise, since Contingent Matter spells Misology and Pessimism. Let us be fully prepared, then, to find that ' the circuit of our musings ' is in Ethics as in all other science most inadequately narrow. Thus there immediately suggest themselves two classes of men that appear to lack a Normal Self. Under the first category comes the moral idiot—*ὁ πεπηρωμένος πρὸς ἀρετήν*—whose impulses are permanently warped or whose intellect is hopelessly perverse. Such beings, or rather such negations of true human being, would certainly seem to exist ; and Ethical Theory confronted with the fact of their existence is fain on the whole to ascribe it to ὕλη, that is, to refer it to the Inexplicable, since it cannot show how any good can accrue to the species from the occurrence of such ' sports,' save perhaps in so far as they provide objects whereon a kind of pity may be lavished. The other case is very different. It is the case of the martyr, of the warrior stricken down in his prime, of the intellectual giant cut off ere he could benefit the world. Have these two, then, no Normal Self (for to say that they realise this self in one supreme moment ere death comes is surely a paradox, seeing that we know not any such concrete self that is not considerably extended in time, and seeing, further, that it is well-nigh impossible to conceive of such supreme moments as happening for many who might deserve them), and in this way do they resemble the incurable criminal or fool? Philosophy can but answer 'Yes' and 'No'. Yes, since they too are the sports of sheer inexplicable Accident. Whether it be madness or death that robs a man of his natural destiny, and whether the evil fate interpose at the very start or at the turn of the race, in any case it is the fault of *ὕλη*. No, because inward flaw and outer accident seem at any rate different modes of the same unaccountable Necessity. If we could feel pity of a kind towards the moral idiot because our own Abnormal Self taught us in part how he was made, it is at least on a very different scale that we can feel sympathy and admiration for the noble life of unfulfilled promise, since our Normal Self whereon and wherein alone we are able to dwell with permanent satisfaction constitutes a bond of union between such lives and ours which we do not willingly let slip whether untimely, or indeed even timely, death has ravished them to that unknown whence itself it came. Meanwhile Ethical Science establishing its Normal by the roughest method of averaging is constrained to persist in adding *ἐν βίῳ τελείῳ* to its definition of the Moral End as it is for us. 'So careless of the single life' may well be the cry of the poet out of patience with Nature. But Science must stick to Nature with its mingled goodness and badness, and must exercise its patience to the full in striving to define the Good Nature as it is and may be in us; so that the actual may, at any rate so far as within us lies, coincide with the actually possible Best, whatever part in the final ordering be played by incalculable chance.

To sum up, then, it is the function and privilege of Science in its Formal or Definitory aspect to deal in highly abstract formulæ. Such abstractions cannot, however, in the case of an evolutionary or concrete science be 'blank,'—that is, unpervaded by conditional truth. The Normal Self is such a formula, abstract, that is, general, yet not 'blank,' that is, abstractly self-consistent, like the truths of Formal logic; for it refers to a group of psychic activities that in part negative the idea of a true self, being composed of two but partially harmonised 'moments,' and maintaining itself within the specious unity of Consciousness in direct opposition to an Abnormal Self. It is therefore permeated and confined by Relativity, is unstable, moving, evolving *εἶδος*, *εἶδος* in the sense of 'real kind' or 'species,' but not in the sense of pure and absolute 'form'. Nevertheless, as I venture to think, it is the only and the most perfect kind of form that the concrete nature of Evolutionary Ethics permits us to grasp in thought. It is the form or 'container' of all that Instinct, Habit, Tradition and the most careful Reasoning have together shown the typical wise and good man of a given age or generation to be his possible Best. On the other hand the Abnormal Self is the negation of moral *εἶδος* —in Platonic language, the net outcome of the alliance of the brute and the sophist against the man.

In spite, then, of the partial contradictions that it contains, I am disposed to regard the Normal Self as phenomenally a fact, and, moreover, as *the* fact that Ethical Science needs to posit in the forefront of its general definitions. At any rate I feel sure that it is more of a fact than is the Tribal Self of Clifford. Relative consistency, relative completeness and comprehensiveness, is the standard by which both alike must stand or fall. If therefore the idea of the Normal Self, as I have tried to explain it, is more really comprehensive and in this sense truer than the Tribal Self of Clifford, then it is better, ethically speaking, and like any other experimental formula is entitled to prevail until, like a priest of Nemi, it succumb to a still doughtier rival.

V.—THE PSYCHOLOGICAL AND SOCIOLOGICAL STUDY OF ART.

By Yrjö Hirn.

When Baumgarten 150 years ago introduced the theory of "liberal arts and beautiful thinking" as a new discipline in the literary world, he was anxious to defend in advance his *Æsthetica* against those who might find it *infra horizontem suam.* Within one generation of the time when it was thus considered necessary to apologise for a treatment of the phenomena of "sensitive knowledge," the new science had already acquired a fixed method and a rich literature. So deeply had the theories and ideas, which were first brought together under a common heading in Baumgarten's short manual, influenced contemporary thought, that the most important questions of life came to be treated as æsthetic problems. This glorious period, however, has in its turn been succeeded by an age which neglects speculation on art and beauty for other tasks which are regarded as far more important. Such rapid changes within a few generations appear almost incomprehensible. But they can easily be explained if we take into account the intimate connexion which always exists between æsthetic speculation and prevailing currents of thought.

In Mr. Bosanquet's *History of Æsthetic* it has been pointed out with great clearness to what extent the prosperity of æsthetic studies was caused by the general philosophical situation. Æsthetic epistemology, as set forth in Baumgarten's chapter on *cognitio sensitiva,* and further developed in Kant's *Kritik der Urtheilskraft,* described, as is well known, a form of judgment which is neither purely rational nor purely sensual. For philosophers who had to struggle with the apparently irreconcilable opposition between reason and the senses, this conception of a mediative faculty must have satisfied a most urgent need. Similarly we may suppose that the ethical observer felt himself emancipated from the narrow antagonism between body and spirit by looking at our actions with æsthetic attention. In proportion, however, as general science has been able to reconcile the old dualism of higher and lower faculties, the judgment of taste has necessarily lost importance. In the development of monistic philosophy and monistic morals we may thus see one important factor, by the influence of which æsthetic has been ousted from its central position.

The evolution of modern art has been still more injurious to æsthetic speculation than the progress of science. In the golden days of art-philosophy conditions were eminently favourable to universal generalisations. The great periods of art, classical antiquity and the renaissance, were so remote that only their simplest and most salient features were discerned. Nor did the art of the period exhibit the bewildering multiplicity of a fertile age. The formative arts were less important than ever before; music, which was so soon to eclipse all other arts, had not yet awakened the interest of philosophers. The crafts were dying; landscape-gardening is indeed the only kind of applied art that we hear about at this time. Beauty, art, the ideal, these and all other general notions must have been suggested with unsurpassable simplicity by this uniform and monotonous artistic output. It is easy to understand the eagerness and the delight with which the earlier writers on æsthetic, once the impulse given, drew conclusions, made comparisons, and laid down laws. But it is equally evident that speculative zeal was bound to fall off as soon as the department of art was enlarged and its products differentiated.

Even the more intimate knowledge which was subsequently gained of classical culture necessitated important corrections in æsthetic dogmas. The artistic activities of savage tribes, which have been practically unknown to æsthetic writers until recent years, display many features that cannot be harmonised with the general laws. And in a yet higher degree contemporary art defies the generalisations of a uniform theory. With greater mastery over materials and technique, the different arts have been able to produce more and more specialised forms of beauty. The painter's ideal is no longer that of the poet or the story-teller, nor the sculptor's that of the actor. Pure music, pure poetry, pure painting thus develop into isolated, independent arts, of which each one establishes its own laws and conditions for itself. The critic who in spite of this evolution tries to apply a narrow æsthetic standard of beauty to all the various arts may indeed—according to his influence—delay the public appreciation of modern works and thus indirectly impede artistic development. But no amount of theorising will enable him to arrest the growth of artistic forms whose very existence contradicts the generalisations of the old systems. And he is equally powerless to stop such violations of the supposed frontiers of the different arts, as continually occur, *e.g.*, in modern picturesque poetry and descriptive music.

It is only natural that in times so inopportune general speculations on art and beauty have been more and more abandoned in favour of detailed studies in the technicalities of art, historical researches in which works of art are considered chiefly as documents bearing on culture, and experiments on the physiology and psychology of æsthetic perception. For art itself and its development it would perhaps be unimportant, if a science which has never been of any great positive and direct influence on artistic production should completely disappear. But from the theoretical point of view it would be matter for regret, if artistic activities ceased to be considered as a whole. And so it would also be if æsthetic feelings, judgments of taste, and ideals of beauty came to be treated only in appendices to works on psychology. It is true that all these notions have irremediably lost their former metaphysical and philosophical importance. But in compensation art and beauty have for modern thinking acquired a social and psychological significance. To determine the part which artistic activities and æsthetic appreciation play in their relation to the other factors of individual and social life—that indeed is a task which is momentous enough to be treated in a science of its own. Modern æsthetic, therefore, has still its own ends, which, if not so ambitious as those of the former, speculative, science of beauty, are nevertheless of no small importance. These ends, however, can no longer be attained by the procedure of the old æsthetic systems. As the problems have changed with changing conditions, so too the methods must be brought into line with general scientific development. Historical and psychological investigation must replace the dialectic treatment of the subject. Art can no longer be deduced from general, philosophical and metaphysical principles; it must be studied—by the methods of inductive psychology—as a human activity. Beauty cannot be considered as a semi-transcendental reality; it must be interpreted as an object of human longing and a source of human enjoyment. In æsthetic proper, as well as in the philosophy of art, every research must start, not from theoretical assumptions, but from the psychological and sociological data of the æsthetic life.

Such a procedure, however, is encumbered with difficulties, which the writers on speculative æsthetic were scarcely aware of. When theories of art and beauty were based on general, *a priori*, principles, there could not possibly be any doubt as to the point of departure in the several researches. But when we have no assumptions to start from, the very demarcation of the subject may become a matter of uncertainty. In the philosophy of art, to which department of æsthetic I wish to restrict my observations on the present occasion, this difficulty of formulating the *data* and *quæsita* constitutes the first, and by no means the least important, problem.

If we embark upon a scientific treatment of art without any preconceived definitions, the aim and conditions of such treatment can only be determined by examining the prevailing notions on the subject, as they are expressed in language and in literature. As an objective interpretation, a theory of art can claim attention only if it conforms to the recognised usage of the principal æsthetic terms. In the various definitions of art which are contained in the different æsthetic systems, we must therefore try to find some point of unity, from which to approach our subject. The difficulties of such a task are evident to any one who has gone through the discouraging experience of reading a history of æsthetic. The investigator who seeks an accurate demarcation of the whole area of art, as distinguished from other departments of life, meets with partial definitions which can be applied only to certain fixed forms of art. We need mention but a few of the most typical instances. Even an ardent admirer of Taine is compelled to admit that his generalisations are too exclusively derived from the study of poetry and the formative arts. In the same way it is only by laborious adjustments that the theory of Vischer can be applied to music and lyric poetry. The aphorisms of Ruskin cannot seriously claim to apply to any but the formative arts. And Mr. Marshall's *Æsthetic Principles*—to adduce one of the most recent attempts in general art-theory—are too obviously those of an expert in architecture. In none of the modern systems has sufficient room been made for certain forms of art which, from the evolutionist's standpoint, are of the highest importance: such as acting, dancing and decoration. All the one-sided definitions are moreover so inconsistent with each other, that it seems impossible to make up for their individual deficiencies by an eclectic combination. It is not to be wondered at, therefore, if some writers on art, confused by the bewildering contradictions of æsthetic theories, have called in question the very existence of an universal art-criterion.

By those who adopt this attitude—which seems the more justified in the present state of artistic differentiation—the possibility is denied, not only of all general art-philosophy, but also of all sociological and psychological treatment of artistic manifestations as a whole. Even if all other hypotheses are banished, æsthetic research cannot possibly dispense with the fundamental assumption of the unity of art. But, if we do not insist on too minute and positive demarcations, we shall after all be able to find in most systems at least one common quality which is ascribed to all the different forms of art. Notwithstanding the mutual contradictions of art-theories, the believers in general æsthetic can always appeal to the unanimity with which the majority of authors have upheld the negative criterion of art. Metaphysicians as well as psychologists, Hegelians as well as Darwinists, all agree in declaring, that a work which can be proved to serve any utilitarian, non-æsthetic purpose must not be considered as a genuine work of art. True art has its one end in itself, and rejects every extraneous purpose: such is the doctrine unanimously stated by Kant, Schiller, Spencer, Hennequin, Grosse, and others. And popular opinion agrees in this respect with the conclusions of science. This distinctive quality of independence seems therefore to afford us a convenient starting-point for the treatment of art in general.

Owing to its negative character, this criterion does not give us much information as to the real qualities of art. But even the poorest definition is enough to begin with, if it only holds good with regard to all particular cases. Unfortunately, however, we need only apply the test of independence to existing works of art to find that even this single point of agreement between the different theories is open to dispute. There is scarcely any author, however he may formulate his general definitions of art, who would assess the relative value of art-works according to their degrees of disinterestedness. For instance, no candid man would, nowadays seriously contend that an arabesque composition is *per se* on a higher æsthetical level than a statue or a poem. But we may even go farther. We must question whether every work of art ought to be degraded from its æsthetic rank, if it can be convicted of having served any external, utilitarian purpose. This strict conception of the æsthetic boundaries has been eloquently attacked by Guyau in his celebrated treatise *Le principe de l'art et de la poésie.* Though the ultimate conclusions of this work are perhaps not so clear as might be desired, yet we do not see how his attitude in estimating concrete manifestations of art can be assailed. It would, to take an example, be absurd to contend that the singing of Taillefer lost in æsthetic value by contributing to the victory of Hastings. And however strictly we may insist upon the requirement that every genuine work of art should have been created purely for its own sake, we cannot possibly conceal the fact that some of the world's finest erotic lyrics were originally composed, not in æsthetic freedom, which is independent of all by-purposes, but with the express end of gaining the ear and the favour of a beloved woman. The influence which such foreign, non-æsthetic motives have exercised on art will also become more and more apparent with increased knowledge of the conditions of æsthetic production. The further the psychological biographer pushes his indiscreet researches into the private life of individual artists, the more often will he find that some form of interest—personal, political, ethical, religious—enters into the so-called disinterested æsthetic activity. Such instances must induce undogmatic authors to relax to some extent the strict application of the artistic criterion. And even those philosophers, who in spite of the historical evidence insist upon applying it, will be compelled to admit having taken for works of genuine art productions which, from their point of view, have no claim to the title.

The danger of such mistakes is all the greater when one has to deal with the lower stages of artistic development. In point of fact recent ethnological researches have conclusively proved that it is not only difficult, but quite impossible, to apply the æsthetic criterion of independence to the productions of savage and barbarous tribes. It is true that the large department of primitive art has not as yet in its entirety been made the subject of systematic study. But in compensation the results which have been arrived at with regard to decoration, its most typical form, are so much the more striking. In almost every case where the ornaments of a tribe have been closely examined, it has appeared that what to us seems a mere embellishment, is for the natives in question full of serious, extra-æsthetic significance. Carvings on weapons and implements, tattooings, woven and plaited patterns, all of which the uncritical observer is apt to take for purely artistic compositions, are now explained as religious symbols, owners' marks or ideograms. There is still room for discussion as to whether in certain individual interpretations the tendency to look for concealed meanings has not been carried too far. But there can be no doubt that the general principles which to many students seemed so fantastic when first formulated by Stolpe, Read, Ehrenreich and others, have derived additional support from every fresh examination of primitive systems of decoration.

The isolated researches which have been carried on within the department of primitive literature and drama all point in the same direction. Wherever ethnologists have the opportunity of gaining some insight into the inner life of a savage tribe they are surprised at the religious or magical significance which lies concealed behind the apparently most trivial of amusements. And it is to be remarked that they have learned to appreciate this esoteric meaning, not by a closer examination of the manifestations themselves, but through information acquired by intercourse with the natives. There is often not a single feature in a savage dance which would give the uninitiated any reason to suspect the non-æsthetic purpose. When North American Indians, Kaffirs or Negroes perform a dance, in which all the movements of the animals they hunt are imitated, we unavoidably see in their antics an instance of primitive, but still purely artistic drama. It is only from the descriptions of Catlin, Lichtenstein and Reade that we learn that these pantomimes have in reality quite as practical a purpose as those imitations and representations of animals by which hunters all over the world try to entice their game within shooting distance. According to the doctrine of sympathetic magic it is indeed an axiomatic truth that the copy of a thing may at any distance influence the thing itself, and that thus a buffalo dance, even when it is performed in the camp, may compel the buffaloes to come within range of the hunters. But the deceptive appearance of disinterestedness, which in these cases might have led one to mistake a mere piece of hunting magic for a specimen of pure dramatic art, is apt to make us cautious about accepting as independently æsthetic any manifestations of primitive man.

In the songs and dances by which savages exhort themselves to work and regulate their exertions we find an aspect of utilitarian advantage which is real and not imaginary. It is also evident that it is this advantage, and not any independent æsthetic pleasure, which is—intentionally or unintentionally—aimed at in the war-pantomimes, the boating songs, dances, etc. And it is no doubt for this reason that music and dance have attained so surprising a development in the lower stages of culture. In trying, therefore, to explain the historical development of art, we are compelled to take into account that foreign purpose which is never acknowledged in art-theory.

If every work of art were really a *Selbstzweck*, standing quite isolated from all the practical utilities of life, it would be nothing less than a miracle that art can be met with in tribes, which have not yet learnt to satisfy, nor even to feel, the most elementary necessities of life. In such a case it is not music only which would, as Wallace thinks, have to be explained by supernatural causes; primitive art in all its departments would baffle our attempts at rational interpretation. By studying, however, the artistic activities of savage and barbarous man in their connexion with his non-æsthetic life, authors on evolutionary æsthetic have succeeded in solving this great crux of art history. The dances, poems, and even the formative arts of the lower tribes possess indeed, as every ethnologist will admit, unquestionable æsthetic value. But this art is never free and disinterested; it has always a usefulness—real or supposed—and is often even a necessity of life.

An historical conception of art is thus, it appears, incompatible with a strict maintenance of the æsthetic criterion. But it may still be asked whether we are therefore compelled to join Guyau in abolishing all distinctions between art and other manifestations of life. By doing away with the only definition which is common to the majority of æsthetic systems, we should dissociate ourselves from all previous views on art. And it seems hard to believe that all dogmatic writers on æsthetic, one-sided as they may often seem, have founded their theories on a pure fiction. The independent æsthetic activity, which simply aims at its own satisfaction, cannot have been invented for the sake of the systems. The mere fact that so many theories have been proposed for its explanation furnishes, it seems to us, a sufficient proof that the conception of this activity corresponds to some psychological reality. The "self-purpose" has certainly not played so important a part in the practice of artists, as writers on æsthetic would have us believe. It is also impossible to distinguish its effects in individual æsthetic manifestations. But from all we know of the life and work of artists, there appears to be a tendency—more or less consciously followed, it is true, in different cases—to make the work its own end. And in the public we can in the same way notice an inclination—which grows with increasing culture—to regard art as something which exists for its own sake, and to contemplate its manifestations with independent æsthetic attention. Whatever we may think about the genesis of particular pictures and poems, we know that they at least need no utilitarian, non-æsthetic justification in order to be appreciated by us. And with as much assurance as we can ever feel in comparative psychology we may take it for granted that the same way of looking at art has prevailed in other stages of culture as well. However cautious one may be in drawing conclusions from analogies between higher and lower forms, a closer study of primitive art must needs compel every one to admit that these dances, poems and ornaments, even if they originally served practical, religious or political aims, may at least have come by degrees to be enjoyed in the same way as we enjoy our art. By denying such subjective independence in the creation and enjoyment of art, we should be guilty of the same one-sidedness as those authors who deny that genuine art has ever been influenced by "foreign purposes". If it is presumptuous to adduce any particular works or manifestations in proof of free and independent production, it may be no less audacious to contend that even the most primitive form of art has flourished in tribes destitute of all æsthetic cravings. There is room for discussion on the degree of influence which self-motivated artistic activity has exercised in particular works and manifestations. It may also be made an object of research to determine at which precise stage of development æsthetic attention becomes so emancipated as to entitle us to speak of a pure and free art-life. But we do not think that such inquiries can ever lead to any positive result. The more one studies art, especially primitive art, from a comparative and historical point of view, the more one is compelled to admit the impossibility of deciding where the non-æsthetic motives end and the æsthetic motives begin. The only result we can reach is the somewhat indefinite one that it is as impossible to explain away the artistic purpose as it is to detect its presence in a pure state in any concrete work of art.

For art-philosophy as a science of its own even this non-committal conclusion is of vital importance. It gives us a right to regard all the forms and developments of art as witnesses to an activity which tends to become more and more independent of the immediate necessities of life. But on the other hand an historical study of art shows us that this activity can never be explained by examining concrete works, as we meet with them in reality. Whenever we have to deal with art as a "self-purpose" the need of theoretical abstraction forces itself upon us with irresistible cogency. It is of no avail to argue from the data of art-history, because we can never fully know the psychical origin of the works. The problem presented to us by the tendency to engage in artistic production and artistic enjoyment for their own sake can only be solved by studying the psychology both of artists and of their public. The "art-impulse" and the "art-sense," as referring to subjective tendencies in creators and spectators are the chief notions with which we have to operate in such an investigation. And when we are obliged to introduce the notion of the "work of art" we have to remember that this term, strictly speaking, refers to an abstract and ideal datum. Only by thus restricting our attention to the psychical facts can we attain any clear conception of that autotelic aspect of art on which so much stress has been laid in all æsthetic philosophy.

It is needless to say, however, that even a purely philosophical interpretation of art would be impossible without a knowledge of the works and manifestations as they appear in real life, with all their extraneous, non-æsthetic elements. The psychological examination must therefore necessarily be supplemented by an historical one. The methods of the latter research cannot be the same as those used in a strictly æsthetic inquiry. And the words will naturally be employed in a different sense. We shall not demand of a poem, a painting or a drama that it should fulfil more than the technical requirements of the several arts. The ornamentation of a vase, *e.g.*, is in this sense a work of art even if it serves a magical, *i.e.*, a supposed practical purpose. Indeed it is most advantageous, if we wish to bring out the influence of sociological factors with the greatest possible clearness, to concentrate our attention upon the very qualities which we have to disregard in the treatment of purely artistic activity. The productions of primitive tribes, in which art is so closely connected with life, supply the most profitable material for such a study. After having examined, in these simple forms, all the sociological aspects of art, it will be possible to place the two art-factors in the most illustrative antithesis, and to study their mutual influence. Thus we shall learn why it is that the concrete work of art, although its historical origin may be entirely non-æsthetic, has always proved so eminently adapted to serve the needs of the purely æsthetic craving. And by starting from the conception of æsthetic activities which has been arrived at on psychological grounds, it will be possible to determine the particular qualities in individual works of art which make them more or less able to satisfy this craving. The peculiar tasks of æsthetic proper, such as the critical estimation of works of art or the formulation of laws for artistic production, can therefore be undertaken only by constant reference to the psychological and sociological principles of art-theory.

If it be admitted that the psychological interpretation of the art-impulse and the sociological interpretation of the work of art are the two important, mutually indispensable problems of evolutionistic art-theory, the order in which these problems are to be treated becomes a mere matter of convenience. In the larger work, to which this paper is intended as an introduction, I have deemed it most convenient to begin with the psychological and end with the historical, or rather sociological, investigation. But it might possibly be quite as methodical to proceed in the inverse order. And it may even be thought unnecessary to divide the treatment into different parts. What I wish to contend is only that a clear and sustained discrimination between the two points of view is indispensable to a successful treatment of the science of art.

It is naturally with a feeling of reluctance that one resorts to new abstractions in a science which has already suffered so much from overabstraction. Art, one would think, ought to be protected against the pedantry of hair-splitting analysis. The inconsistencies of æsthetic theory are, however, of a nature to justify insistence on what may perhaps appear to be unnecessarily subtle distinctions. I can but think that much confusion and futile discussion could be avoided if authors agreed to uphold the distinction between subjective tendencies and objective works.

VI.—DISCUSSIONS.

SOME PHYSICAL CONCLUSIONS IN RESPECT TO SPACE.

THE apparent platitude of the ensuing paragraph may be excused, as a preface essential to the argument immediately following.

That which appeals to our senses directly can only do so by the agency of force; and the various forces exhibited determine the various properties of the object. Thus Matter exhibits resistance to disintegration through the force "cohesion"; elasticity is the concomitant of force-action. Colour cannot be impressed on consciousness without the action of force, neither can form (or shapes of objects) be evident without touch or sight—both involving the agency of force.

Some, it appears, express wonder why Space has no positive property or attribute (comparable to that Matter possesses). But how could Space have a positive property of this kind, unless it could act on consciousness by means of force? Now, in harmony with observation, Space (in the true sense of the term) that is Void or pure vacuity cannot possibly exert force on anything[1]. This may serve to explain why the existence of Space can only be demonstrated indirectly, or by logical inference. Of course, by "Space" is here meant the Void that inferentially exists, when all material is supposed removed from any given locality.

But it seems that a notable error has been made in classing Space (and also Time) with material things; in putting in the same category the non-material,[2] upon which force cannot act, and the material, where forces are influential or active. This error (pointed out briefly in the author's article in MIND for April, 1900) has apparently led to some remarkable consequences. Space and Time are classed with masses, colours, sounds, odours. Dr. E. Mach (of Vienna) in an able work on psychological physics

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[1] Another confirming indication of Space not being connected with force, is its permanent unchanging character. It is the property of force to produce change. Force *does* cause repeated changes in Matter (called "effects"); whereas there are no such corresponding effects connected with Space.

[2] Non-material existence, as here defined, is something which possesses immunity from force-action, in our experience; while contrariwise), "material" existence is subject to force-action.

(*Beiträge zur Analyse der Empfindungen,* Jena, Gustav Fischer, 1881) expresses the following view :—

"The physiology of the senses indicates clearly that Spaces and Times may just as well be called sensations as colours and sounds" (p. 6—translation of passage).

Yet there is this profound difference, that while colours and sounds [Dr. Mach classes herewith forms or material objects] are connected with the action of force[1]—Spaces and Times are not. For there is no means of applying forces to Space and Time, as one can to masses (for instance).

While (by way of illustration) one can suppose the appearance of a mass of matter to be a resultant of force-action—such as its colour—how can Spaces or Times be consistently viewed as resultants of force-action ; in that they are not observed to be in any way amenable to forces ?

Yet in his *Principles of Psychology* (vol. i., third edition, p. 227, etc.), Mr. Herbert Spencer ventures to suggest a particular theory, which makes Space and Time the resultants of a transformation passed through, where force is therefore (by implication) concerned, just as if it were a case of colour or sound ; and the forms of material objects are supposed by Mr. Spencer to be as much the results of transformation as colour.[2]

But while (for elucidation here), it may be possible to deliver an impact against a material object—or to apply force—it is impossible to do the same with a Void or an absolute vacuum. In the first case, force is influential ; in the second, it is completely powerless. Observe the profound and significant distinction : and it is only reasonable to infer that this distinction means something. It cannot mean that all these existences are to be classed together and treated in an analogous way.

A resultant of the action of force is of course capable of being acted on by force. If Spaces and Times were the resultants of force, why should it not be possible to apply or connect forces to them ?

If Space and Time be not resultants of force-action ; may not this constitute some reason for regarding them as absolutes, *i.e.*, not as phenomena (which latter are recognised to be the resultants of the action of force on consciousness) ?

In one peculiar hypothesis[3] of the nature of Space, given in volume i., page 227, etc., of the *Principles of Psychology*, Mr.

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[1] In the perception of colour, of sound, of temperature, of form, of pressures, it is known that consciousness is acted on by force. But there is (contrariwise) a total absence of indication of force-action in the perception of Space. Knowing the existence of Space, while no force is observed to be connected therewith (and so it is not directly perceived), the inference is that its presence is indirectly made evident by reasoning.

[2] For a critical commentary on this, see last article in MIND, for April, 1900.

[3] Already briefly alluded to.

Spencer proposes that some absolute existence (so-called "ontological order") is transformed—by interaction between it and our consciousness—into Space. It would follow then that this entity ("ontological order") which by interaction on us is to generate Space as a resultant—must itself exist without Space. In other words (as a preliminary), Space, *previous to* its generation in this way, must be imagined absent from existence. Nevertheless, in the *First Principles*, Mr. Spencer says:—

"The non-existence of space cannot, however, by any mental effort be imagined" (p. 34).

Space *cannot* then (according to Mr. Spencer's own words) be imagined absent from existence. This is, however, precisely the condition indispensable for his peculiar theory of Space generated by assumed interaction between an "ontological order" and our consciousness.

If then Space cannot be supposed to be generated by the action of anything on consciousness, it can at least be *conceived* to be an absolute existence, present already, before mind was.

There would seem to be little profit in seeking to ascribe peculiar qualities to Space, such as "curvature," by doubting the axiom of parallels, or that the properties of a triangle are independent of its size: and it may seem even a question to some whether hypotheses of this kind may not tend somewhat to shake the stability of mathematical conceptions.

For it appears that assumptions of this character (even if they have some ulterior purpose[1]) only become plausible by assigning to Space some specific "texture" or structure; *i.e.*, by *not* viewing Space as pure Void or vacuity. How can the imagination seize a foothold to conceive curvature, unless some texture (structure) or specific quality be postulated for Space? Can a Void be imagined curved, it may be asked? The assumption of a structure for Space rejects (it may be noticed) the deepest or most abstract conception. For possibly Void may be said to be the most penetrating concept of the human mind. Directly structure [Prof. Clifford remarks on "the sharp points, edges and furrows of space"[2]] is attributed to Space, then the intellect can take a profounder step, and place this entity (with structure) in a Void, *i.e.*, in Space itself. Can it not be said, therefore—Refrain from giving structure, in order that space may remain space.

Some might urge—A less abstract concept of Space is possible. But anything whatever possessing structure (to which forces could in conception be attached) can be imagined to exist *in* Space. This structural entity is, therefore, not Space itself. Moreover, a structural entity of any sort can easily be conceived to be finite in extent: while this cannot be said of Space. Hence, these considerations seem to constitute a decisive obstacle in the way of any attempt to accord Space a structure (or any endeavour to elude the most abstract idea possible).

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[1] Such as the tentative development of formulæ, etc., on the basis of particular hypotheses assumed.

[2] Prof. Clifford's *Lectures and Essays*, vol. i., p. 321. A criticism of the above view is ventured with every respect.

Prof. Clifford remarks additionally as follows:—

"But the question—Does space contain a finite number of cubic miles, or an infinite number?—is a perfectly intelligible and reasonable question which remains to be answered by experiment" (*Lectures and Essays*, vol. i., p. 153).

Whatever may be thought of this, it may at any rate be desirable to remember that Space itself has never been available for experiments directly—has never been laid bare, so to speak. It appears that Space has at no time been exhibited in sample form.

Supplement. On page 165 of the *First Principles* (fifth edition) is the following passage by Mr. Spencer, which seems to merit some critical comment:—

"That which we know as Space being thus shown, alike by its genesis and definition, to be purely relative, what are we to say of that which causes it? Is there an absolute Space which relative Space in some sort represents?" (p. 165).

As to the first sentence:—

"That which we know as Space being thus shown, alike by its genesis and definition, to be purely relative, what are we to say of that which causes it?" (p. 165).

Now, of course, Space is "relative" in the sense that all perceptions are *related* to the observer or reasoner. But as to the question:—

"What are we to say of that which causes it?" (p. 165).

This implies or might naturally lead a reader to infer that "that which causes" Space (the perception), is itself *not* Space, *i.e.*, that something different from Space, by acting on consciousness, produces the impression we call "Space".

Obviously, this is not demonstrable, even if it were imaginable. For Space relative (*i.e.*, Space to consciousness) and the absolute existence, whence results the impression, may possibly be identical, or one and the same in kind. For a relative and an absolute may conceivably be alike in some phase. For instance, a sphere, as perceived, may actually exist as a sphere absolutely (independently of any observer being there). This is something positive and definite. To fix the conception sharply on form or shape alone—the conception of the "thing—in itself" (or absolute entity) involves nothing more than a comparison, *i.e.*, the sphere as it appears, and the something which produces the impression called "a sphere" may be identical in shape, or the two be connected by the ratio unity (so to speak). This is quite intelligible; in fact it is impossible to imagine definitely what else could be[1].

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[1] Author's first paper in MIND for April, 1900, may be fitly alluded to here.

Mr. Spencer inquires further :—

"Is there an absolute Space which relative Space in some sort represents?" (p. 165). The wording here seems somewhat less careful than usual. Clearness in philosophy is particularly refreshing; and essential, if a general agreement be aimed at. For one cannot ask : "Is there an absolute *Space?*"—without (by the use of the same word "Space") implying that the absolute existence, whence the perception results, is itself Space : in other words, that the absolute and the relative are identical here or copies. Reasons for inferring this have been pointed out; but it is not what Mr. Spencer wishes to convey by his question. For the passage—"Is there an absolute Space which relative Space *in some sort*[1] represents?"—implies that the relative and absolute are *not* copies. It might be suggested that for clearness in wording, the question might preferably have been put somewhat so (query) :—

"Is there an absolute something (an existence present absolutely) which relative Space in some sort represents?"

But in the absence of any transfiguration undergone in conciousness; it appears evident that this "existence present absolutely" must coincide with the Space we appreciate.

S. TOLVER PRESTON.

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[1] Observe the implication of the words here italicised.

VII.—CRITICAL NOTICES.

The Ethics of Aristotle. Edited with an Introduction and Notes by JOHN BURNET, M.A., Professor of Greek in the United College of St. Salvator and St. Leonard, St. Andrews. Introduction, pp. lii., text, etc., pp. 502.

FOR several years students of Greek philosophy have looked forward with much interest to the publication of a commentary by Prof. Burnet on the Nicomachean Ethics. The author's brilliant work on *Early Greek Philosophy* naturally led to the highest expectations, and it is just possible that many people may receive this commentary with a slight feeling of disappointment. The brevity of the introductions (general and special) may tend to arouse the suspicion that an undue amount of attention has been given to the text, and that the present work is in the main merely another text of the *Ethics*. When, however, feelings of this kind are put aside, and the work is considered strictly as a contribution to the interpretation of the *Ethics*, there can be but one verdict as to its quality and value.

Mr. Burnet informs us that the present edition of the *Ethics* was originally planned, and most of it written, on a more extensive scale. The work was laid aside when it was known that Mr. Bywater was about to publish a revised text, and Mr. Stewart *Notes on the Nicomachean Ethics:* and is now produced at the request of the publishers in a less elaborate form. No doubt it might be held that a commentary should lean as far as possible to the side of brevity. But it will be noticed that Mr. Burnet abbreviated his commentary, not for this reason, but because a more elaborate commentary was on the point of being produced. The inconvenience of the present arrangement for the ordinary English student is obvious. He must acquire all three works, Mr. Bywater's, Mr. Stewart's and Mr. Burnet's: Mr. Burnet's alone, in its original form, would have served. Besides, the scale of Mr. Burnet's commentary is very different from that of the *Notes.* The latter must be at least five times greater in amount, so that Mr. Burnet's commentary might have been much more elaborate without even approaching the magnitude of the *Notes.* On the whole, therefore, one cannot help regretting that Mr. Burnet did not carry out his original plan. Everything that he writes about Greek Philosophy is so interesting that one does not like to miss any of it.

The main justification for the present edition is to be found, as Mr. Burnet indicates in the preface, in the fact that the "method of interpretation is a somewhat novel one". Mr. Burnet's thesis is that "most of the difficulties that have been raised about the *Ethics* are due to the fact that, though the dialectical character of many passages has long been admitted, commentators have never thoroughly recognised that the treatise is dialectical throughout". It is therefore primarily with reference to this theory that the work as a whole must be judged.

Mr. Burnet's account of Aristotle's conception of Method is given in §§ 20-26 of the introduction. He begins by reminding us that "the question of method is always vital to Aristotle". Every science can be regarded as a conscious application of the rules of the special method appropriate to its special subject-matter, and implies a previous general training in method and also a special training that shall enable the student to recognise the appropriateness of the special mode of treatment. The general training in method is of course logic. As Mr. Burnet points out, Giphanius said long ago: "Vocat ille παιδείαν habitum quendam recte judicandi de rebus omnibus quod docet doctrina Analytica; contra ἀπαιδευσία contrarius ab illo habitus dicitur, hoc est ignoratio doctrinæ Analyticæ". It was indeed a commonplace of the time of Giphanius that a study of the *Organum* is a necessary propædeutic to the other Aristotelian treatises. But recent students of Aristotle have rather lost sight of this point, and Mr. Burnet does well to recall attention to it. The nature of the special training presupposed by a special science is less clear, and it can hardly be said that Mr. Burnet has succeeded in elucidating completely the brief hints given by Aristotle.

The question of method in the *Ethics* is considered under two heads. In Ethics, as in all practical sciences, two problems are presented, (1) to find the ἀρχή of the science, (2) to pass from the ἀρχή to the conditions of its being realised. The former is discussed in §§ 22-25 of the introduction, the latter in §§ 22 and 26.

The apprehension of the ἀρχή of Ethics (*i.e.*, the definition of εὐδαιμονία) presupposes a certain habituation (ἐθισμός) in the hearer. When this has been secured, the science is able to commence its search for its ἀρχή, and the method it uses is Dialectic. "The word διαλεκτική properly means nothing more than the art of dialogue or conversation—it signifies the theoretical formulation of the practice of Socrates. Plato developed this method. . . . In his hands it became the only instrument of philosophical thinking, the ideal of a completed science. To this Aristotle could not agree. A dialectic proof was to him no proof at all: for it had no middle term. It could not be the right instrument for arriving at mediate propositions: for we can only be said to know these in the true sense of the word when we know them as the conclusions of a syllogism. This was Aristotle's own contribution to Logic, and he is never weary of showing us that the syllogism is the only adequate form for the mediate truths of science. But it remains as true for him as it was for Plato that the dialectic method is the only way of arriving at immediate propositions, propositions which can have no middle term between their subject and their predicate. and we have seen that it is from such propositions that all science must start" (§ 24). This passage is perhaps liable to be misunderstood. "Dialectic" seems to be used in a limited sense as equivalent to Plato's technical sense of the word and to a part only of dialectic in the Aristotelian sense. Though the discovery of immediate propositions is the special function of Dialectic (or more strictly is *μάλιστα οἰκεῖον τῆς διαλεκτικῆς*, Topics, 101 *b*, 2) it is not its only function. A dialectic proof may be a *συλλογισμὸς διαλεκτικός*, and a syllogism must have a middle term.

The next section (25) is perhaps the most valuable in the general introduction. It contains a most interesting account of the method of dialectic, as used in Ethics for the determination of the *ἀρχή* of the science. Of special importance is the point that *μεταβιβάζειν* (*cf.* *μεταβαίνειν*) is the technical term for the process of developing an *ἔνδοξον* by means of criticism. The account of the technical term *πρόβλημα* is hardly satisfactory. "We begin by 'taking' (*λαμβάνειν*) premisses from the beliefs of the many and the wise to serve as premisses (*ἔνδοξοι προτάσεις*). But our attitude towards these beliefs is by no means uncritical. . . . As a general rule, we find that they are contradictory, and when we find such a contradiction between received beliefs, we have what is called an *ἀπορία* (literally, 'no thoroughfare'). . . . The technical name for a pair of contradictory *ἔνδοξα* is *πρόβλημα* and the solution of it is called the *λύσις*." Also note page xliii. "A *πρόβλημα* (*προβάλλω*) only differs from a *πρότασις* (*προτείνω*) in form (*τῷ τρόπῳ*), *cf.* Top., 101 *b*, 29." This tends to suggest that a *πρόβλημα* is a pair of contradictory *premisses*, and seems to lose sight of the fact that a *πρόβλημα* is essentially a *conclusion* (not as such of course but *before* it has been proved). A *πρόβλημα* is of the *τρόπος, πότερον τὸ ζῷον πεζὸν διποῦν ὁρισμός ἐστι ἀνθρώπου ἢ οὔ;* (Which of the alternatives S is P, S is not P, is true?) and there may be no *δόξα* with respect to it (Top., 104 *b*, 1-5. *πρόβλημα δ' ἐστὶ διαλεκτικὸν θεώρημα . . . περὶ οὗ ἢ οὐδετέρως δοξάζουσιν ἢ ἐναντίως οἱ πολλοὶ τοῖς σοφοῖς ἢ οἱ σοφοὶ τοῖς πολλοῖς ἢ ἑκάτεροι αὐτοὶ ἑαυτοῖς*). On the other hand a *πρότασις* is of the form *ἆρά γε τὸ ζῷον πεζὸν διποῦν ὁρισμός ἐστιν ἀνθρώπου;* and is on the whole *ἔνδοξος* and *not* "problematical". Of course, in general, there is difference of opinion with respect to SP, and in this case, as Mr. Burnet shows, the object of dialectic is, by means of criticism, to qualify the opposed views in such a way as to bring them into harmony, the ultimate assumption of the method being that neither the mass of mankind nor the great thinkers are likely to be altogether wrong.

We may now turn to the second question with respect to method, the question as to the procedure of the science after its *ἀρχή* has been determined (§§ 22, 26). Being a *πρακτικὴ ἐπιστήμη*, Ethics is necessarily analytic in method: that is, it starts from its *ἀρχή* or (in the order of *γένεσις*) *τέλος*, and has to determine by analysis the steps or means necessary towards the realisation of its end. A difficulty in Mr. Burnet's account of the matter presents itself at the very outset. We are told (§ 22) that the *ἀρχή* of Ethics (or Politics) "will not resemble the definitions from which deductive geometry starts, but rather the enunciation of a problem in geometrical construction, what in the older Greek geometry was called a *ὑπόθεσις*". In a note (p. xxxvi.) the following explanation of the use of the word *ὑπόθεσις* is given. "The precise signification of *ὑπόθεσις* is *ὃ ὑποτίθεταί τις*, that which one sets before oneself as a thing to be done or proved; for the meaning of *ὑποτίθεμαι* is not very different from that of *προτίθεμαι*. The *ὑπόθεσις* is properly the Q. E. D. or the Q. E. F. of a geometrical problem. It is a conclusion assumed for purpose of analysis to be true, or an end assumed for purposes of deliberation to be realised. The method and terminology are alike Platonic, though in the Sixth Book of the *Republic* Plato insists that knowledge in the highest sense cannot be of this character, but must deduce everything from the Form of the Good. The analytic method proceeds *ἐξ ὑποθέσεων οὐκ ἐπ' ἀρχὴν ἀλλ' ἐπὶ τελευτήν* (510 *b*); the true method would not regard these *ὑποθέσεις* as *ἀρχαί*. It is evidence of the Academic origin of the theory that we have in [Plato] Def., 415 *b*, *ὑπόθεσις ἀρχὴ ἀναπόδεικτος*." Now it is difficult to see how *ὑπόθεσις* can be completely identified with the Q. E. D. (or Q. E. F.) of a geometrical proof. The same proposition (SP) can be regarded in three different ways: (1) as a *πρόβλημα* put forward for proof, (2) as the assumption of a hypothetical reasoning, (3) as a *συμπέρασμα*. It appears in the second aspect when the method of discovering the proof of SP is analytic. SP is assumed hypothetically, MP deduced. If, then, (*a*) SP can be in turn deduced from MP, (*b*) MP is known to be true, the proof of SP has been effected. It is then in this aspect alone that SP can be described as *ὃ ὑποτίθεταί τις*. As a *πρόβλημα* put forward for proof it can be called *ὃ προτίθεταί τις*. Mr. Burnet gives no authority for his view except Plato and the passage quoted from the *Republic* seems to prove the opposite. Plato distinguishes two movements of thought which correspond to geometrical synthesis and geometrical analysis. It is the former that is described in the words quoted by Mr. Burnet. Both proceed from *ὑποθέσεις* or assumptions. But the synthetic movement is downwards towards a *τελευτή*, while the analytic is upwards towards an *ἀρχή*. The latter returns to its *ὑπόθεσις* (and proves it), the former does not. As for the definition *ὑπόθεσις ἀρχὴ ἀναπόδεικτος*, it may indeed be evidence of "the Academic origin of the theory," but it is difficult to see how Mr. Burnet's view can be maintained in opposition to it. How could SP, which is hypothetically assumed in geometrical analysis, be described as *ἀναπόδεικτος*, when the object of the analysis is to demonstrate it?

When we turn to the passage (1151 *a*, 15) in book vii. where the word ὑποθέσεις occurs we find the same interpretation adopted by Mr. Burnet. Aristotle's words are: ἡ γὰρ ἀρετὴ καὶ μοχθηρία τὴν ἀρχὴν ἡ μὲν φθείρει ἡ δὲ σῴζει, ἐν δὲ ταῖς πράξεσι τὸ οὗ ἕνεκα ἀρχή, ὥσπερ ἐν τοῖς μαθηματικοῖς αἱ ὑποθέσεις· οὔτε δὴ ἐκεῖ ὁ λόγος διδασκαλικὸς τῶν ἀρχῶν οὔτε ἐνταῦθα, ἀλλ' ἀρετὴ ἢ φυσικὴ ἢ ἐθιστὴ τοῦ ὀρθοδοξεῖν περὶ τὴν ἀρχήν. Mr. Burnet comments as follows: "The second interpretation suggested by Prof. Stewart, though with some doubt, seems to be certainly right. An ὑπόθεσις in mathematics is certainly the assumption of the thing to be proved or the thing to be done from which an analytical proof starts." Although, of course, Mr. Burnet cannot be assumed to assent to Mr. Stewart's reasons, it is perhaps worth while to consider these, since Mr. Burnet gives no additional reasons of his own. ὑπόθεσις in the present passage must mean either (1) MP, an ultimate ἀρχή of the science, or (2) SP assumed to be true for purposes of analysis. Mr. Stewart holds that (1) is not in accordance with strict Aristotelian usage, on the strength of three passages in the *Post. Anal.*, 72 *a*, 14, ἀμέσου δ' ἀρχῆς συλλογιστικῆς θέσιν μὲν λέγω ἣν μὴ ἔστι δεῖξαι, μηδ' ἀνάγκη ἔχειν τὸν μαθησόμενόν τι· ἣν δ' ἀνάγκη ἔχειν τὸν ὁτιοῦν μαθησόμενον, ἀξίωμα. . . . θέσεως δ' ἡ μὲν ὁποτερονοῦν τῶν μορίων τῆς ἀποφάνσεως λαμβάνουσα, οἷον λέγω τὸ εἶναί τι ἢ τὸ μὴ εἶναί τι, ὑπόθεσις, ἡ δ' ἄνευ τούτου ὁρισμός: 92 *b*, 15, τί μὲν γὰρ σημαίνει τὸ τρίγωνον ἔλαβεν ὁ γεωμέτρης· ὅτι δ' ἔστι δείκνυσι: 76 *b*, 35, οἱ μὲν οὖν ὅροι οὐκ εἰσὶν ὑποθέσεις· οὐδὲν γὰρ εἶναι ἢ μὴ εἶναι λέγονται . . . τοὺς δ' ὅρους μόνον ξυνίεσθαι δεῖ. No doubt the second of these passages seems to say that the geometer proves the existence of his subject S. But it is clear from the context that τρίγωνον must be taken as an example of P, not of S (see Zabarella's Commentary). The words then merely mean that in geometry you assume the meaning of P, and then prove that it exists, *i.e.*, that S is P. The third passage merely repeats the distinction explained in the first. Thus the suggestion that the θέσεις of geometry are ὁρισμοί alone, not ὑποθέσεις, seems to fall to the ground: and indeed it is obvious that no science can prove anything about S unless it assumes its existence, though of course the existence of S may be so obvious as not to require *explicit statement*. It would be easy to bring forward many proofs that the ἀρχαί of the synthetic process in geometry are ὑποθέσεις + ὁρισμοί: perhaps the following words taken from the same chapter of the *Post. Anal.* as Mr. Stewart's third quotation will suffice: ἔστι δ' ἴδια μὲν καὶ ἃ λαμβάνεται εἶναι, περὶ ἃ ἡ ἐπιστήμη θεωρεῖ τὰ ὑπάρχοντα καθ' αὑτά, οἷον μονάδας ἡ ἀριθμητική, ἡ δὲ γεωμετρία σημεῖα καὶ γραμμάς. ταῦτα γὰρ λαμβάνουσι τὸ εἶναι καὶ τοδὶ εἶναι (76 *b*, 3): again, the words that immediately follow Mr. Stewart's third quotation, ἀλλ' ὅσων ὄντων τῷ ἐκεῖνα εἶναι γίνεται τὸ συμπέρασμα. οὐδ' ὁ γεωμέτρης ψευδῆ ὑποτίθεται . . . (76 *b*, 38).

So much for the general question as to the meaning of ὑπόθεσις. In the present passage in *Eth.*, vii., the evidence is on the whole in favour of taking αἱ ὑποθέσεις to mean the principles of mathematics. As Mr. Stewart admits, the words οὔτε δὴ ἐκεῖ ὁ λόγος *διδασκαλικὸς τῶν ἀρχῶν οὔτε ἐνταῦθα* seem to point in the direction of this interpretation. Mr. Burnet's argument that "the word *ἀρχή*, 'starting point,' is wide enough to cover the hypothesis of an analytical proof . . . and such an hypothesis is not based upon any 'ground'" proves no more than the possibility of the other interpretation. Most appropriately *ἀρχή* means the principles of mathematics, and they, rather than the hypothesis in analysis, may be said not to be based on any ground.

A reference to § 26 of the introduction may conclude our discussion of the question of method. The section begins with the words "Once, however, we have got our definition, the procedure becomes quite different," *i.e.*, becomes analytic, and goes on to explain that the premisses and conclusions of Ethics must be *ὡς ἐπὶ τὸ πολύ* and not exact. This arrangement of topics is apt to lead one to suppose that Ethics uses dialectic only when it is discovering its *ἀρχή*, whereas, of course, it is just the inexactness of Ethics that constitutes its dialectical character. In a word, Mr. Burnet hardly seems to distinguish with sufficient clearness between dialectic and analysis. One might say that dialectic is not a method at all. There are just two methods, a direct and an inverse, which may be described as synthesis and analysis. These methods may be applied to different kinds of matter. For instance, when they are applied to the matter of science, synthesis is *ἀπόδειξις τοῦ διότι*, analysis is *ἀπόδειξις τοῦ ὅτι*.

The last section of the introduction discusses the doctrine of the Categories and the part it plays in the criticism (*Nic. Ethics*, i., 6) of Plato's Universal Good. Mr. Burnet, following Apelt, shows that the Categories are intended to solve the well-known difficulties about predication, and he assents to the view that "the table of the categories is not Aristotle's at all, but simply part of his heritage from the Academy". "We shall have no difficulty in accepting the positive statement that Xenokrates reduced the categories to two only, Substance and Relation. If that is so, we shall see that, in accordance with his method, Aristotle was bound to argue against the Platonic view from some position admitted by the Academy" (p. l.). This view seems too extreme. One may grant that Plato or at least Xenocrates had practically arrived at the doctrine of the Categories. But the way in which the doctrine is used throughout the Aristotelian treatises makes it hardly possible to doubt that the doctrine is Aristotle's own, or at least a doctrine with which he completely identifies himself. The suggestion that Aristotle supposed himself bound to argue against the Academy from a position admitted by them, *ἐκ τῶν οἰκείων δογμάτων*, depends of course on the general assumption that the *Ethics* is purely dialectical. This assumption, however, can hardly be accepted. Throughout the *Ethics*, as Mr. Burnet really admits, Aristotle makes use of his own physical theories. Why then should he not use his own metaphysics? In truth, the general character of the *Ethics* is essentially determined by the fact that it is a *disciplina operatrix*, not θεωρία. It uses the results of science, but its theoretical knowledge is limited by its practical purpose. In this way it is neither apodictic in character nor yet merely dialectical.

The only other sections of the introduction that call for special reference are the first seven, which deal with questions relating to the text, and especially with the authorship of books v.-vii. Mr. Burnet brings forward good reasons for regarding these books as the work of Aristotle, and this conclusion is supported in detail in the commentary. Hence the inference that "the Eudemian Ethics is the most authoritative commentary on the Nikomachean," and Mr. Burnet has adopted the excellent plan of printing the relevant Eudemian passages below the text of the Nicomachean Ethics. The convenience and advantage of this device are very great.

We may turn now to Mr. Burnet's commentary. It is impossible in a review to do justice to the commentary in detail, and one must be content with recording the general impression that Mr. Burnet's interpretation of the *Ethics* in detail is of the very highest value and interest. There are, however, one or two general features that call for notice.

As we have seen, Mr. Burnet's fundamental thesis is that the *Ethics* is dialectical throughout, in other words is a discussion of ἔνδοξα. It is therefore an essential part of his method of interpretation to discover the authorship of the ἔνδοξα examined. The claim which Mr. Burnet makes in the preface that his "own contribution to the illustration of the *Ethics* lies chiefly in the direction of tracing the originals of many passages in Plato and Isocrates" and that "some of the material has been collected for the first time" is amply justified. To give an example. *Nic. Eth.*, i., 6, contains a refutation of Plato's Universal Good, and the first part of the following chapter is occupied with a discussion of the Chief Good as being (1) complete, (2) self-sufficient, (3) more worth having than anything else. The current interpretation of this passage seems to suggest that Aristotle is here advancing views of his own. Mr. Stewart, for instance, with reference to the discussion of point (3) remarks: "In this section Aristotle virtually maintains all that Plato contended for in his doctrine of the Idea of the Good". Mr. Burnet throws a new light on the discussion. He explains to us that in chapter 5 Aristotle begins the discussion of ἔνδοξα about the Chief Good, commencing with the beliefs of the many, and that in chapter 7 he proceeds with the discussion of the beliefs of the wise, *i.e.*, of Plato as expressed in the *Philebus*. It is true that the reference to the *Philebus* had been pointed out before by Giphanius and others, but this does not affect the value of Mr. Burnet's exposition, which consists in showing that the reference is not merely casual and that Aristotle is consciously discussing and accepting the doctrine of the *Philebus*.

Besides his exhaustive knowledge of Plato, Mr. Burnet possesses another essential qualification for interpreting the *Ethics*.

He knows minutely the *Physics* and other physical treatises of Aristotle. These constitute the base or rather the central portion of Aristotle's philosophy, and Mr. Burnet uses them most effectively in the interpretation of the *Ethics*. Specially noteworthy in this respect is the introductory note to book ii., where ἕξις and μεσότης are explained in the technical terms of φυσική.

Sometimes Mr. Burnet shows a tendency to push his theories too far, and to discover design in what may be merely accidental. It is possible, for instance, to hold that in general the more popular passages in the *Ethics* are addressed specially to a "Platonically schooled public" without finding in every literary phrase a reminiscence of Plato. Again, Mr. Burnet seems rather fond of novel and paradoxical interpretations. An instance of this occurs at the very beginning of the *Ethics*. One is rather startled to find that Mr. Burnet has a new interpretation of the first chapter of the first book. "It is generally supposed that the passage deals with ends in general and not simply with the distinction between the ends of theoretical and practical science and the proof that the end of the most architectonic of the practical sciences will be the good for Man" (introduction, p. xxv.). The evidence brought forward by Mr. Burnet is sufficient to prove his point. One must admit that primarily what is divided or classified in the chapter is πρακτικὴ ἐπιστήμη. But a division of πρακτικαὶ ἐπιστῆμαι is necessarily at the same time a division of ends, and there is no reason to suppose that this fact was not present in Aristotle's mind and influenced to some extent his words. The antithesis between "ends in general" and "ends of theoretical and practical science" seems illusory, for every end of human activity must imply a corresponding πρακτικὴ ἐπιστήμη which shall teach the means of realising it.

Mr. Burnet's account of Justice is novel and interesting. To discuss it here briefly would be unprofitable, and a mere statement of it must suffice. Mr. Burnet holds that there are two species of "the diorthotic just," one of them depending on a direct "arithmetical proportion" (if the phrase may be used), the other on an inverse "proportion" of the same kind ($a - b = d - c$). The latter of these is τὸ ἀντιπεπονθός. He thus rejects Prof. Ritchie's view that Catallactic Justice is a third species of Particular Justice, of lower rank than "the dianemetic just" and "the diorthotic just".

In conclusion it is necessary to add that the external form of the book is worthy of its contents. The page is most beautiful, and those responsible for the production of the book deserve the highest praise.

R. P. HARDIE.

What is Thought? or The Problem of Philosophy by Way of a General Conclusion so Far. By JAMES HUTCHISON STIRLING, LL.D. Edinburgh: T. & T. Clark, 1900. Pp. ix., 423.

THIS latest production of Dr. Stirling contains much that is good, but not the most blinded admirer could describe it as a good book. It is not, indeed, in any rational, coherent sense *a* book at all, though as a quarry in which to dig it would furnish material for many books. The main object, as described in the title, occupies, possibly, as many as twenty-three pages, the remaining four hundred discourse of other things, some of them more or less directly connected with the main thesis, others arising as side issues from some chance phrase, but the majority having as much connexion with the problem under discussion as the gossip of a Frau Professor in her *salon* has with the treatise her husband is writing in his study on the other side of the wall. Only that Dr. Stirling's gossip is always interesting.

A more fitting title would run somewhat as follows: The Universe is Ego, with a demonstration that this (unknown to the authors) is the doctrine of *all* German philosophy, with some chit-chat (mainly biographical) about the social bickerings of certain German philosophers, and passing remarks (as they disconnectedly occur) on misunderstood passages in their writings. Of this fourfold subject-matter the first portion occupies, as above said, about twenty-three pages, the "demonstration" about two hundred, the "chit-chat" and "remarks" the remaining half of the book—no one portion being in any way marked off from the others but all inextricably intermingled. The last point—want of coherence—is the most obvious feature to a general reader, and suggests, first of all, to the critic that the style of writing throughout exhibits in extreme form Dr. Stirling's most characteristic features—German affectations, obscure allusions, gratuitous irrelevancies, jerks, exclamations, aposiopeses, involved parentheses, unintelligible anacolutha. What, for example, is the plain prosaic meaning of the following?—

> Asked why Hegel said never Ego, always Begriff? I say this: *Im Begriff* suggests at once *the* Begriff as of the Begriffe (Categories), and the *beginning*—not that he meant to mislead; but he died suddenly of the *cholera*. [The *italics* are Dr. Stirling's.]

Occasionally, it is true, a dim sense of his lack of logical arrangement seems to dawn upon the author. On page 383, for instance, after some remarks upon the varying degrees of difficulty presented by Hegel's writings, he adds: "There is some temptation, indeed, to go farther here, and to sketch out a plan of arranging the works of Hegel in such wise that ability to read them would be best attained. But for that this is not the place." Unfortunately, this feeling of inappropriateness is absent from the greater part of the book.

As it is impossible to criticise without at least reading some meaning into an author, the first duty of a critic, when, leaving the style, he approaches the subject-matter, is to attempt some logical analysis of the thesis and the reasoning in support of the thesis. In this case the thesis is twofold: (*a*) Reality = Thought = the I-Me, (*b*) *all* German philosophy teaches this truth. The first part of this double thesis admits of short though not easy statement; but to demonstrate the truth of the second part Dr. Stirling must necessarily prove, to begin with, that *all* German philosophy is *one*; to do this requires its identification with the teaching of the "great Quadrilateral"—Kant, Fichte, Schelling, Hegel—who, in their turn, must be shown to have had the same *Lehre*, or at least to have formed four stages in one single movement: this movement, further, must be Kantian, not Hegelian,[1] and to identify Fichte, Schelling and Hegel completely with Kant necessitates a proof of two propositions, (*a*) that the three later teachers woefully misunderstood both Kant and each other (also to some extent themselves), (*b*) that commentators in general have misunderstood them.

In the demonstration of these points Dr. Stirling must be pronounced, to a great extent, successful from his own point of view. But would these great thinkers have admitted the correctness of his point of view? Would they have granted the premisses he claims for each of them, or accepted the explanations he gives of what, in this passage or that, they really meant (though they did not know it)? It is doubtful. Nevertheless the discussion of these questions will be found very stimulating to philosophical readers, and full of valuable suggestion, in regard to particular passages, to the special student of any one thinker. It is here perhaps that the chief value—certainly the practical usefulness—of the book lies. In this reference too the portions which form absolutely irrelevant digressions become as valuable as the pages dealing more or less directly with the questions at issue. Other or greater commendation cannot unfortunately be given.

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[1] Upon this special point, one surely in the main, if Dr. Stirling's contention be true, of nomenclature merely, he is specially emphatic. *Cf.* p. 39: "Nevertheless, I say, too, that the whole of philosophy that deserves the name since Kant is so absolutely due to Kant that it can properly and comprehensively receive no other name than his. Fichte has worked, Schelling has worked, Hegel has worked—each of them has worked, no one of them has worked but—in the quarry of Kant. There is no product in Fichte, there is no product in Schelling, there is no product in Hegel, that is not to be named—*Kantian*. Fichte's philosophy, Schelling's philosophy, Hegel's philosophy—each of these, in accurate and precise name, is Kantian philosophy. And with Kant and these we have in modern times all—all that is capital;—gratefully counting in, as well, an introductory few, and leaving prattle individually to the irresponsible rest."

Cf. also p. 379. "We get sight here of another very important point, this, that Hegel may be held to have given in the end the name of Kantian Philosophy to the whole general movement that culminated in himself. And that is the truth."

The proof of the first part of his thesis is given, summarily, on page 417, by Dr. Stirling himself :—

> There can no Supreme Being be, but that must to Himself say *I* : I AM THAT I AM.
>
> Man, again, it is said, is made "after the likeness" of God : "a man is the image and glory of God".
>
> It is the very heart of the Christian Religion that the Infinite God, become Finite, is a Man.
>
> And Man is *I*. Even by the privilege of having been made like unto God, Man is I.
>
> It is that that he has of God in him.
>
> So, then, even to realise the privilege—even to realise the *I*—for that it is, that he is here.
>
> We are sent here to think.
>
> To realise *I*—that is the purpose, and that is the history of the universe.

Of the cogency of this reasoning each reader must judge for himself. It is obvious, however, that the two parts of the thesis are not really parts of one thesis at all. They form distinct questions belonging to distinct departments of scientific inquiry. No. 2 is largely historical and demands a book to itself under the general heading, *History of Philosophy*. No. 1 belongs totally and entirely to *Metaphysics*. It has nothing to do with the relations, philosophic or otherwise, of Hegel and Schelling as such, nor is it easy to quite forgive Dr. Stirling for adding to the inherent difficulty of the problem other difficulties due to a style of treatment gratuitously exasperating.

W. H. FAIRBROTHER.

VIII.—NEW BOOKS.

The Theætetus *of Plato: a Translation with an Introduction.* By S. W. Dyde, D.Sc., Professor of Mental Philosophy, Queen's University, Kingston, Canada. Glasgow: James Maclehose & Sons, 1899. Pp. viii., 173.

The *Theætetus* is probably more read by ordinary students of philosophy, who have little Greek, than any other dialogue of Plato, except the *Republic*. The present volume seems to be intended mainly for students of this type. The introduction supplies an explanation of the side of Plato's thought that is represented in the *Theætetus*, and throughout the translation the Greek equivalents of the more important philosophical terms are given, so that the most superficial student cannot altogether avoid direct contact with the original.

The introduction occupies nearly half of the volume, and consists of four chapters.

The first chapter contains a clear and interesting account of Plato's style and method. I have noted only one point in it as open to serious question. Διάλεκτος is hardly the right word to emphasise as the technical term for Plato's method, and it is positively misleading to say that this word 'was used by Plato as the name of the science built up from the lower sciences gradually' (p. 5).

The second and third chapters are the part of the introduction that has most connexion with the *Theætetus*. They contain a discussion of the views of Protagoras and his followers, and of Plato's criticism of these views. The account of Protagoras's political opinions strikes one as especially good. Perhaps on the whole Prof. Dyde tends to ascribe too definite a theory to Protagoras. It is doubtful if we ought to talk of the 'philosophy' of Protagoras at all. As to the Protagoreans, Prof. Dyde's view is that 'the phrase "disciples of Protagoras" may of necessity have been used by Plato with a comprehensiveness sufficient to include Antisthenes and Aristippus as well as the more direct followers of the *Sophist*'. Perhaps Prof. Dyde makes hardly enough allowance for the possibility that some of the views expressed in the *Theætetus* may not have been held by any one. There is no reason why Plato should not develop current tendencies or suggestions, just to see the result of stating them in an extreme form.

The fourth chapter is on the whole the most important part of the introduction. It contains an excellent summary of the later developments of Plato's metaphysics, especially as represented in the *Sophist*.

To turn now to the appended translation of the *Theætetus*. The practice to which I have already referred of giving the Greek equivalents of technical terms is obviously excellent. The precise principle followed by Prof. Dyde is not very clear. He seems to give the Greek word even when it is not used in a technical sense, partly perhaps to indicate that Plato's philosophical terms were not completely fixed. On the whole, however, the result is good: the Greek equivalent is given us neither too often nor too seldom. But, unfortunately, it is impossible to speak favourably of the translation itself. It has no special merits, and a comparison of it with Jowett's translation results altogether in favour of the latter. In many passages it is clearly inaccurate. 'Shall' and 'will' are often interchanged: for instance, to take one example out of many, 'I shall try to explain' (146 D) should be 'I will try to explain'. No doubt errors of this kind are trivial; but they are rather annoying. But graver mistakes occur: for instance (198 E), 'learn again for himself (*παρ' ἑαυτοῦ*) what he knows' should be 'from himself'. Another example is at 152 C, where the words *αἴσθησις ἄρα τοῦ ὄντος ἀεί ἐστιν καὶ ἀψευδὲς ὡς ἐπιστήμη οὖσα* are translated 'and perception of reality, since it is knowledge, can never be false' (*cf.* introduction, p. 25). At 189 E a rather serious mistake occurs. 'Thinking (λόγος) is the soul's having a dialogue with itself over its own mental possessions.' The Greek for thinking is of course *διανοεῖσθαι*, which occurs two lines before: and one would hardly guess that the Greek represented by 'over its own mental possessions' is *περὶ ὧν ἂν σκοπῇ*. One's confidence in the accuracy of the translation is further shaken by the carelessness with which the Greek is printed, especially in the matter of accents. It may be that the author holds that accents in general are a mere superstition, and utterly unimportant. But if they are to be printed at all they ought to be printed correctly. There are errors or misprints of this kind in the introduction and translation on pages 22 (three), 25, 29 (two), 38, 39, 77, 92, 99 (two), 139, 144, 155.

A word about the general design of the work may be added in conclusion. On the one hand, the introduction does not give a complete exposition of the *Theætetus*, for it contains no reference to the discussion of the third hypothesis (*ἐπιστήμη = δόξα ἀληθὴς μετὰ λόγου*): on the other, much of it is more directly concerned with other dialogues than with the *Theætetus*; for instance, the fourth chapter deals almost entirely with the *Sophist*. Hence one is inclined to ask whether there is sufficient reason for prefixing the introduction to a translation of the *Theætetus* in particular. Two suggestions might be offered. One is that the introduction might be expanded and made more general, and the translation omitted. The other is that a translation of the *Sophist* might be added and the introduction made more strictly relevant to the two dialogues. The former course seems preferable, and by adopting it Prof. Dyde would undoubtedly confer a benefit on students of Plato.

History of Ancient Philosophy. By Dr. W. WINDELBAND. Authorised English Translation by HERBERT ERNEST CUSHMAN, Ph.D. From the Second German Edition.

Professor Windelband's *Geschichte d. Alten Philosophie* has already won a place for itself in Germany. There is probably no other text-book that combines in an equal degree the merits of condensed erudition and fulness of reference to the literature of the subject in Germany with freshness of treatment and general readableness. In sending forth the second edition from which the translation is made the author is therefore justified in wishing for it that "it may continue to fulfil its task: to solicit friends appreciative of a noble cause, to preserve alive the consciousness of the imperishable worth which the creations of Greek thought possess for all human culture". On the occasion of its appearance in an English (though a fearfully Germanised) dress it will be sufficient to indicate one or two of the points in which Dr. Windelband departs from some of the older standard histories of philosophy.

One of the chief features of the earlier part of the work is the broad separation that is made between Pythagoras and the Pythagoreans—the moral and religious reformer of the middle of the sixth century and the school of philosophers identified with a particular method of speculation upon the great problem of metaphysics as it was left by Parmenides and Heraclitus at the end of the fifth. This is a distinction which only requires to be stated to be accepted.

Another important change (for which English readers have been prepared by Professor Burnet's treatment of the subject) is the separation of Leucippus, whose existence Windelband does not think it necessary to vindicate against the Epicureans, from Democritus. While it is necessary to give the earlier thinker the credit of originating the theory of the atoms and of the existence of the void it is highly doubtful whether the detailed application of the theory in explaining the origin of qualitative distinctions is earlier than the latter half of the fifth century. On the other hand, it is quite certain that the theory of knowledge founded upon it together with the ethical interpretations presupposes a later strain of thought. It is, therefore, right that while Leucippus has his place assigned to him among the physical philosophers of the first period Democritus should appear as one of the leaders of the great philosophical movement which succeeded the period of the Enlightenment. It is indeed impossible to represent Democritus the Abderite as a part of Greek (which by this time was Attic) philosophy in the same sense as his junior contemporary Plato—his own reported words, ἦλθον εἰς Ἀθήνας καὶ οὔτις με ἔγνωκεν, being significant in this respect—yet his works were perfectly familiar to Aristotle, whose philosophy is best understood as an attempt to embrace in a higher form of unity the materialistic and the teleological account of the world represented respectively by his two great predecessors.

Another interesting innovation is the inclusion of "Patristics" as part of ancient philosophy. For this, too, there is much to be said. The Gnostics made a real contribution to previous thought in their conception of a philosophy of history, and may thus be regarded as having supplemented the history of philosophy in an important detail. It may, moreover, be claimed that the whole movement of Christian philosophy of which Gnosticism was a part is best understood as an attempt parallel both in time and motive with Neoplatonism to overcome the dualism which had been inherited from the golden age,—the difference being that while Neoplatonism conceived of the reconciliation between God and the world under the form of the ecstatic vision of the individual soul Christian philosophy represented it as a cosmic process of redemption. It is doubtful, however, whether this is really an improvement on the older arrangement. There is, of course, continuity in thought. Without it there could be no *history* of philosophy. But it is questionable whether anything is gained by postponing the beginning of Christian and mediæval philosophy to the fourth century after the historical events in which it rose began to operate in speculation.

Minor points on which Windelband differs from older authorities will be found in his treatment of familiar controversies. He accepts the *Philebus* as undoubtedly genuine, classing it as one of the chief teleological works of Plato, while at the same time he rejects the *Parmenides* as the work probably of 'an older member of the Platonic circle'. Both the *Sophist* and the *Politicus* are condemned, the latter for the somewhat unconvincing reasons that its teaching is incompatible with that of the *Republic*, and that it is unlikely that Plato should have tried to treat the same problem in two books. The treatment of the νοῦς παθητικός, in general agreement with Trendelenburg, as the unity of all the lower faculties, and thus a mediating principle between the animal and the rational soul, is an interesting attempt to close up the fissures which Zeller and others have found in the Aristotelian account of human reason.

The translation leaves much to be desired. It does not read like English: in particular, barbarisms like 'antipode,' 'artifact,' 'inharmony,' 'dieretic' (does 'fullblooded Athenian' mean an Athenian alderman or merely a full Athenian citizen?) call for protest. It sometimes obscures the sense where clearness is most important, as in the condensed account of the atomic vortex on page 164, of φρονησις on page 284. The translator adds a bibliography of English books on ancient philosophy, for which we are grateful so far as it goes. But are Mill's *Essays and Discussions*, Green's *Works*, sufficient reference under the heads of Plato and Aristotle, and why are Nettleship's *Lectures and Remains* omitted under the former, and the names of Grant, Stewart and Newman under the latter?

J. H. Muirhead.

Evolution. By Frank B. Jevons, M.A., D. Litt. ["The Churchman's Library."] London: Methuen & Co., 1900. Pp. 301.

Mr. Jevons tractate on Evolution is as spirited and crisp as anything that has come from the pen of that ready writer. To follow him, however, in describing it as an 'essay in philosophy' (*Preface*) is no easy matter, if the word 'philosophy' is to retain its time-honoured associations. Such relative depth and comprehensiveness as are compatible with a merely popular handling of his theme are perhaps to be recognised in his work; and undoubtedly "The Churchman's Library" is the richer by a most handy instrument for certain purposes of defensive criticism. On the other hand the serious student of philosophy is likely to find himself out of patience with the book, if he insist on trying it by his own rigorous standard of Thorough. For one thing, its literary horizon, so to speak, is foggy to a degree. A certain evolutionary philosophy as distinct from evolutionary science is designated by the help of some bold and drastic touches as the object of attack—a philosophy that by the very form of its presentation at the hands of Mr. Jevons is convicted of being self-contradictory, in that it is shown to fluctuate between the opposite poles of (? Spencerian) optimism and Huxleian pessimism. Now I do not wish to suggest that the presentation is in any important respect unfair. It were sounder method, however, to have kept the processes of catching and of cooking the hare more rigidly apart. In the next place the attack is conducted on lines that are primarily dialectical (in the Aristotelian sense). The argument consists in a series of *ad hominem* retorts upon the positivist and agnostic. Mechanism is confronted with Teleology, Determinism with the fact of our consciousness of Freedom, the faith of the man of science in his assumptions with the faith of the religious man in his. But throughout the false elenchus seems to prevail—'On your principles half the universe is left unexplained, *argal* mine explain it all'; unless the inconsistent account given of Free Will, wherein it is represented as at once a combination of conditions and a condition by the side of the rest be taken as providing the cosmic solvent needed. Not that philosophy may not under certain circumstances adopt a purely critical and negative attitude. The attitude of Mr. Jevons, however, as gauged by his literary manner, is positive to a degree. Yet this tone of dogmatic assurance is not in keeping with the sketchiness of his constructive doctrine. Perhaps it is his constant appeal to "common sense" and "the common faith of mankind" that has betrayed him into aposiopesis, the reader being expected to supply the missing context out of his inner being. Meanwhile, so far as the "realism of common sense" which he professes is formally expounded, the theory would seem as confused as it is certainly confusing. The objective reality of our ideals is no inference, he maintains, but a matter of direct apprehension. Yet it is also maintained that it is by an assumption, an act of faith, that we apprehend our apprehension to be correct. Nor again does his "realism" attempt to bridge save by flights of language the 'ugly black ditch' that separates the fact of the "permanent self-identical and independent" existence of the Ideal from the fact of its development in us—its "progressive revelation in and to man". Allusion is indeed made to "the perfect revelation in Christ". But if this mean 'of Christ in us,' then here is sheer inconsistency. If not, then Christianity falls into line with the Totemism of another of Mr. Jevons' works as having no higher validity in respect to doctrinal content than such as may happen to be adjudged thereto by the confessedly partial intuitions of Mr. Jevons and his readers. Thus in the end we appear to be left immersed in an æsthetic, moral and religious relativism, tempered by a faith in some abstract principle, a That divorced from its What, call we it objective will or God. Truly the evolutionary agnostic might indulge in the thrill of conversion at so small a cost to his intellectual self-respect.

R. R. MARETT.

History of Modern Philosophy in France. By LUCIEN LÉVY-BRUHL, Maître de Conférences in the Sorbonne, Professor in the École Libre des Sciences Politiques. London: Kegan Paul, Trench, Trübner & Co. Pp. x., 500.

Beginning with Descartes and concluding with a rapid survey of contemporary speculation, Prof. Lévy-Bruhl places before us in a series of lucid and precise summaries the opinions of the leading French thinkers during the last three centuries. The impression left is that France, to which the world owes such great gifts in the special departments of knowledge, has not given it any theory, at once original and widely influential, of being, of knowledge, or of conduct. This comparative sterility is no doubt due to the rivalry of a vast theological system based not on reason but on authority, and having to be reckoned with at every step. Descartes and his immediate successors are more or less apologists of the prevailing faith, the *philosophes* of the eighteenth century are more or less its assailants, the numerous schools of thought that have competed with one another since the Restoration, while subsisting for the most part on foreign ideas, keep its pretensions constantly in sight.

What gives French philosophy a national character is, as the author well shows in his last chapter, not a doctrine but a method. Perhaps in this respect he attributes rather too much importance to the initiative of Descartes; but he is fully justified in observing that the Cartesian teaching "co-operated with the tendency of the national temperament" (p. 477). This method, whatever may be the cause of its prevalence, is at once logical and popular. Many French thinkers have had a mathematical training, and all have been influenced by the spirit of geometry. Hence their love of clear ideas and their passion for deducing multitudinous consequences from a single principle. And they have also addressed themselves to mankind at large, to all rational beings rather than to a select class—another motive for studying clearness and simplicity of style, and also a motive for pushing their theories to practical conclusions. A foreign critic may observe that this boasted French clearness has often been too dearly purchased by the sacrifice of comprehensiveness and subtlety; that the appeal to a popular audience has, so far, not won a verdict for pure philosophic truth; and that the philosophies of England and Germany are proving at least as rich in practical results as the philosophy of France.

Prof. Lévy-Bruhl has appended a very useful bibliography to his work; but it does not quite compensate for the total absence of references at the bottom of his pages. One would like to know where Descartes says that "the existence of the thinking mind, far from being dependent on any other existing thing, is the essential condition of every other existence conceivable to us" (p. 20). Is not this confounding the *causa essendi* with the *causa cognoscendi?* And was Pascal really so ignorant as to fancy that the Epicureans were represented by Montaigne (p. 89)? In the celebrated conversation with M. de Saci the name of Epicurus does not once occur, and Montaigne is throughout regarded with perfect accuracy as a representative sceptic. Something more, too, might have been made of what it is the special task of histories of philosophy to elucidate—the debts of philosophers to their predecessors. We hear nothing of what Rousseau owed to Hobbes and Locke; nor is it mentioned that Comte's law of the three stages had been clearly formulated more than seventy years earlier by Turgot. Indeed, Prof. Lévy-Bruhl, while giving prominence to thinkers of less importance, has not a word to spare for the two lectures in which Turgot, according to Cousin, "created the philosophy of history".

In conclusion a word of recognition must be given to the translation, the work of Miss G. Coblence: it reads almost like an original composition.

ALFRED W. BENN.

A Study of Lapses. By H. HEATH BAWDEN, A.M. *Psychological Review*, Monograph Supplements, vol. iii., No. 4 (whole No. 14), April, 1900. New York: The Macmillan Company. Pp. iv., 122.

An excellent study of the conditions and characters of lapses of tongue and pen. Mr. Bawden starts by emphasising the fact that he is here concerned with automatic rather than voluntary mental processes, for the lapse can be conscious not as process but only as a product due to confusion or conflict in 'fringe'-processes. Hence the vagueness of introspective description of its conditions. In general these conditions are (1) fatigue, in a very wide sense; (2) conflict or coalescence; and physiologically the explanation of the lapse can only be widely given as neural mal-co-ordination, such as is at the base of certain forms of aphasia and agraphia. The division of lapses into sensory-motor (in imitation) and ideo-motor is next discussed and put aside as unfruitful; the principles of division first adopted are into (1) oral and graphic, (2) verbal and literal. Oral may be subdivided into visual-vocal and auditory-vocal; graphic into visual-manual and auditory-manual; but in practice it is found that the common mechanism of speech is auditory-kinæsthetic, and that of writing visual-kinæsthetic, the other types being rare. The verbal-literal distinction is adopted for practical convenience only; the length of a word is never the chief determinant of the lapse. The psychological unit is a unit of meaning, and this is never constant but shifts and varies from a letter to a paragraph. Now errors follow the meaning. In a word or in a sentence certain letters or words come to stand for the whole, so that within these limits changes and exchanges may take place without shaking the meaning. This brings to light the distinction between pure word-idea and meaning-idea; the former is usually in terms of visual or auditory imagery, whilst the imagery of the latter must be kinæsthetic. Auditory or visual sensibility may be impaired without loss of ability to interpret meaning; but loss of kinæsthetic sensations must involve inability to interpret. (Surely this 'must' is too emphatic, even though supported by pathological evidence of a negative kind; at any rate contradictory observations have been more than once recorded.)

There follows a very valuable treatment of lapses as examples of assimilation. Three laws of verbal assimilation are stated: (1) Errors are due to the breaking up of an habitual association, but tend to take familiar (significative) forms. (2) Adjacent similars tend to conflict and coalesce. (3) The most vivid and exciting forms tend most to break up the habitual process. On the basis of the first law—the interference of attention with habit—lapses may be classified as persistent (*e.g.*, 'ballot-bax') and anticipatory ('to shut's one mouth'). Lastly, lapses are classified as cases of coalescence—(1) by substitution—ellipsis, transposition, or substitution proper—the common mark of the class being the expulsion of one element; (2) by modification and coalition of the elements involved—*e.g.*, exchanges.

A few suggestions for a psychology of the Ludicrous close this very careful monograph. Tables of examples are given throughout, drawn partly from experiment and partly from ordinary life. It should be added that the author would welcome further data.

T. LOVEDAY.

Dreams of a Spirit Seer Illustrated by Dreams of Metaphysics. By IMMANUEL KANT. Translated by EMANUEL F. GOERWITZ. Edited with an Introduction and Notes by FRANK SEWALL. London: Swan Sonnenschein; New York: The Macmillan Company. Pp. xiv., 162.

Once upon a time Immanuel Kant was extravagant enough to pay the prodigious sum of £7 for a copy of Swedenborg's *Arcana Cœlestia.* His motives in so doing have never been fully cleared up. It would seem, however, that being at that time, under the influence of Hume, more open than before (or after) to empirical evidence, he had been impressed by some hearsay stories about Swedenborg's supranormal powers, and had taken considerable pains (unsuccessfully) to obtain first hand accounts of them. After being disappointed in his purchase, Kant next seems to have conceived the happy thought of revenging himself, and perhaps recovering his outlay, by reviewing it in what appeared to him a popular and facetious style. The result was the somewhat enigmatical pamphlet under consideration, which his admirers have agreed to describe as a wonderfully witty satire both on metaphysics and on spirit-seeing. A more dispassionate criticism would perhaps point out on the one hand that transplantation into East Prussian soil had not markedly facilitated the flow of Kant's hereditary endowment of Scotch humour, and on the other, that the whole argument is such a jumble that its point is by no means clear. Accordingly it is not surprising that Mr. Sewall should have had it translated in order to bring out the debt (over and above the £7 paid) which Kant, in his opinion, owes to Swedenborg. He seems to make out a plausible case for tracing to this questionable source several Kantian notions that have always vexed his students, *e.g.*, the *mundus intelligibilis*, and the knack (so necessary to free beings) of living in two worlds at once. For the rest the reader will find here mention of most of the commonplaces, *pro* and *con*, by which the dialectical discussion of 'spirit-seeing' has been carried on to this day.

F. C. S. Schiller.

The Making of Character: Some Educational Aspects of Ethics. By John MacCunn. Cambridge: University Press, 1900. Pp. vii., 226.

Prof. MacCunn's contribution to the *Cambridge Series for Schools and Training Colleges* is written with admirable lucidity, scholarship and good taste, and with a keen generous interest in the important subject of which it treats. The main divisions of the work deal with congenital endowment, educative influences, sound judgment, and self-development combined with self-control. The treatment is not sketchy, but a great range of ethical topics is handled with sententious brevity. The author points out that the end of moral education is to produce sound moral judgment, and it is in dealing with this central topic that the author shows most plainly his capacity as a philosopher and student of education.

Government or Human Evolution. Part i., Justice. By Edmond Kelly. London: Longmans, 1900. Pp. xv., 360.

This is a book of very little value. The preface promises well by stating that the work "is not the result of mere theoretical speculation, but rather of a particular experience in practical politics," to wit, an attempt to break the Tammany influence in New York municipal politics. This led the author to a study of Justice, which, in the end, he defines mainly by its contrast to Nature. "If the inequalities, the capriciousness and the cruelty of Nature be regarded as making up injustice, human justice is the effort of man to repair the injustice, or rather inequality, of Nature." The author's whole argument amounts to nothing more than Huxley's famous opposition between the moral conditions of society and natural competition. His prolix statement is encumbered with much inaccurate erudition and disfigured by a slipshod journalistic style. For the erudition we may quote the statement that "Ulpian, fatally attracted by the obvious significance of the word natural, inserted a definition of natural rights into the *Institutes of Justinian*"; for the style we may instance the quaint remark that "Socrates turned his back upon Nature in order to concentrate it upon man".

Des Indes à la Planète Mars. Étude sur un cas de somnambulisme avec glossolalie. Par Th. Flournoy, Prof. de Psychologie à la Faculté des Sciences de l'Université de Genève. Paris: F. Alcan; Genève: Eggimann et Cie. 1900. Pp. xii., 418.

The title of Prof. Flournoy's volume, though well fitted to attract the popular attention which his interesting and well-written treatise well deserves and will undoubtedly receive (it is already in its second edition), hardly suggests its real character. It is in reality a thoroughly scientific, careful, candid and judicious study of a most interesting case of 'mediumship,' which throws a flood of light on this and many allied subjects of psychological inquiry, and will rank high among the all-too-few classical treatises in a fruitful field which has too long been abandoned to the pullulations of superstition.

The 'medium' in question, who for purposes of publication is dubbed "Mademoiselle Smith," the daughter of a Genevese mother and a Hungarian father, is some thirty years of age and in perfect health, physical and mental, showing no trace of abnormality except in respect to the trances and hallucinations of her mediumship. She earns her living as an employée in a responsible position of a large shop in Geneva, working nearly eleven hours a day almost all the year round. In the winter of 1891-2 some friends introduced her into a spiritist circle, where it was soon discovered that she possessed gifts of 'mediumship' of a remarkable kind. Prof. Flournoy first met her towards the end of 1894, and has since then kept her continuously under observation, and preserved the most amicable relations with her and her friends, although he has not succeeded so far in convincing her or them that the spiritistic interpretation of her phenomena is unnecessary. It should be mentioned that the development of her trances and of the dream lives she exhibits in them is posterior to her acquaintance with Prof. Flournoy, and that he regards it as possible that his influence may have contributed to the 'somnambulistic' form which her mediumship has now assumed. He further states emphatically that her intelligence and character are high, that her action is entirely disinterested, and that she has offered him every facility for the study of her case, the chief features of which are as follows:—

A secondary personality, which calls itself Leopold and acts as her 'spirit guide,' manifests itself by table-tilting and automatic writing, and during her trances by various methods of signalling, concurrently with the dream impersonations to be mentioned. Leopold, who alleges himself to have been Cagliostro, and speaks through his medium's vocal organs with a deep voice and an Italian accent, inspires her with salutary hallucinations, jealously watches over and directs her, but is by no means coextensive with her normal personality (p. 114). He knows many things of which the latter is ignorant, but remains in ignorance of many incidents of her personal life. In general his impersonation of Cagliostro is plausible, but his handwriting, though very different from 'Mdlle. Smith's,' is not very like Cagliostro's, and (like her) he appears to be ignorant of Italian, ingeniously excusing himself on the ground that Prof. Flournoy would explain his use of it as a subconsciously recorded memory of Italian spoken in the medium's presence.

In addition to Leopold 'Mdlle. Smith' possesses a *repertoire* of no less than *three dream lives*. In the first of these she travels to Mars, describes and depicts its scenery, and converses with and listens to a variety of personages who are denizens of that interesting planet. Needless to say, the statements made are not capable of verification, and the astronomical value of the description is more than doubtful. Psychologically, however, the Martian impersonation is important as affording an observable example of the invention of a fairly copious language and script, which occurs coherently and consistently in connexion with the 'Martian' trances. Prof. Flournoy shows most instructively that though its vocabulary shows no resemblance to French (the only language 'Mdlle. Smith' knows in her normal life), yet its grammatical and syntactical structure is essentially French.

In her second dream life 'Mdlle. Smith's' imagination goes back to the time when she was Marie Antoinette, and plays the queen with the utmost vivacity and impressiveness. Again a distinct handwriting (not, however, identifiable with that of the historical queen) characterises this impersonation, in which two of the members of the circle are recognised as Philippe Egalité and the old Marquis de Mirabeau. Evidently, however, this impersonation is weak; Prof. Flournoy declares that though as good as or better than a play, it is "the least extraordinary of the subliminal creations of Mdlle. Smith from the point of view of lovers of the supranormal".

On the other hand, the third dream must be considered remarkable even by the most exacting. In it 'Mdlle. Smith' acts scenes (including a *suttee*) from her life as *Simandini*, an Arab girl, who in 1401 was the eleventh but beloved wife of *Sivrouka Nayaka*, a Hindu Rajah of Kanara, on the Malabar coast (now reincarnated as Prof. Flournoy himself!), who built the fortress of Tchandraguiri. The verification of this historical information (due to 'Leopold') is rendered very difficult by our almost entire ignorance of the history of Southern India at the time mentioned. Nevertheless, Prof. Flournoy has discovered an obscure old French history of India, which states that the fortress of Tchandraguiri was built in 1401 by the Jain Rajah Sivrouka Nayaka. Of this history he believes only two copies to exist in Geneva, and though it is extremely unlikely that 'Mdlle. Smith' should ever have got hold of either, he supposes that her subliminal consciousness must somehow have obtained cognisance of this passage, and constructed the whole dream on this foundation. Nor do the wonders of this Hindu impersonation stop here: 'Mdlle. Smith' not only acts the part of an Oriental woman with perfect and dramatic propriety (a thing in itself not easy), but she also talks abundantly in a strange tongue, which it is very difficult for the bystanders to take down (the phonograph was tried, but proved impracticable)! It has nevertheless been determined that it has distinctly an Indian appearance (*e.g.*, the sound of 'f' does not occur in it), and contains many words which the *savants* consulted recognised as Sanscrit, and which seemed to be appropriate to the scenes enacted. Furthermore, 'Mdlle. Smith,' in her automatic writing, occasionally introduces stray letters from the Devanagari alphabet in place of their French equivalents. Prof. Flournoy infers from this that she must subconsciously have received, and still possess, a visual impression of this script. Again, it is a curious coincidence that the scene of her dream should be placed in the one part of India into which there has been a considerable Arab immigration, whose descendants (the Moplahs) still form a distinct section of the population. As against this may be set the improbability that a Moslem girl would be married (except by capture) to a Hindu rajah, and that she should be unable to remember any Arabic while remembering so much 'Sanscrit'. It is true that 'Mdlle. Smith' did once produce an Arabic text, but Prof. Flournoy succeeded in showing that her family doctor once adorned his description of a tour in Algiers, which he distributed among his friends, with Arabic texts, *one of which was that produced* by 'Mdlle. Smith,' although neither she nor her family appeared ever to have heard of this procedure. In this manner what might easily have been taken as a convincing and conclusive proof of the truth of reincarnation and all it implies reduces itself under Prof. Flournoy's skilful manipulation into a possible extension of 'Mdlle. Smith's' subliminal consciousness. Still enough remains to induce reflexion in the most callous sceptic, and to render further explanation or verification highly desirable.[1]

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[1] Prof. A. A. Macdonell tells me that the words recorded all seem to be Sanscrit, with nothing Dravidian about their appearance (the Kanarese vernacular is Dravidian). Moreover though it is generally not possible to determine their grammatical form or to construe the sentences, the words always seem to be appropriate to the supposed situation. He

Turning to other forms of 'mediumship' Prof. Flournoy finds that the evidence for 'physical phenomena' in connexion with 'Mdlle. Smith' is scanty and not convincing: that for telepathy is better, but not striking: while of the clairvoyance or 'lucidity' said to have been observed it proved impossible to get satisfactory records. On the other hand, objects she had lost were often recovered by 'Mdlle. Smith' in a striking manner (a fact, however, which could easily be explained by subconscious memory), while some of the cases of apparent 'spirit-identity' are very curious. In fact, if cases as extraordinary as that of the Syndic Chaumontet and the Curé Burnier (pp. 406-411), or as that of Mdlle. Vignier, were recorded by the dozen instead of singly, it would be difficult for those who have an open mind on the subject at all to resist the conviction that the spiritistic interpretation was less improbable than the theory of latent memories and curious coincidences would become under the cumulative strain of a stream of such instances. As it is, Prof. Flournoy's explanation just preserves its credit.

Altogether it is I trust evident even from the above summary that Prof. Flournoy's medium well deserved the study he has bestowed upon her, and that her case has greatly extended our knowledge of the nature and capacities of the subliminal consciousness. Of course it must be taken for granted that the medium acted in good faith, and was not engaged in a conscious, elaborate and systematic imposture, aided and abetted by confederates either in her family or among her spiritist friends, who helped her to 'get up' her most remarkable effects. That this possibility is wholly excluded Prof. Flournoy appears to be quite confident, but such confidence can never be transferred in its integrity to a reader who has not observed the case himself. And it does not appear that detectives were ever used to watch the medium, as in Mrs. Piper's case. Nevertheless 'Mdlle. Smith's' case also produces a strong impression of genuineness, at least upon the present reviewer, who is perhaps unduly influenced by the close analogy between her 'automatisms' and those of a case in his own family which he observed many years ago (cp. *S.P.R. Proceedings*, No. 11, p. 216 f.). In both cases considerable success was attained in tracing the sources of the supranormal information automatically conveyed, though as Prof. Flournoy's case is in every respect more remarkable, it is no wonder that his explanations only attain a lesser degree of completeness. On the other hand it is no use blinking the fact that the 'scientific' explanations also are not wholly satisfactory. They neither account for the persistence with which such cases assume a spiritistic form, nor do they supply a principle to account for the *selection* of recondite and pseudo-evidential memories in lieu of those which ordinary paths of association would naturally reproduce. We may freely grant that the spiritist interpretation, in all cases so far recorded, falls short of *complete* cogency; but so does the subliminal memory theory. And an uncomfortable feeling remains that the differences between them are fast becoming quantitative only; if certain types of incident, of which there have now been recorded a considerable number, occur with more than a certain frequency the spiritist (or some equivalent) interpretation might easily become inevitable; if not, we can continue to explain them away with Prof. Flournoy. The final decision, of course, must rest with more investigation: beyond this it is

points out however that neither at the period alleged nor at any other would *women* know Sanscrit, and considers that the general type of 'Simandini's' utterances is suggestive of memories of examples out of a Sanscrit grammar.

hardly safe to go at present. Still two inferences are perhaps safe; the first that the spiritistic interpretation put upon phenomena like these by the observers first confronted with them was by no means the part of gratuitous folly, and that, so far from having a right to contemn the spiritists, science in reality owes them a debt of gratitude for drawing attention to facts which were displeasing to a powerful combination of diverse prejudices; the second, that between the extremes of uncritical superstition and dogmatic prejudice the critical methods of the Psychical Research Society form the mean path which leads to truth and comprehension. And it speaks volumes for Prof. Flournoy's tact that in spite of the bias against spiritism to which he very candidly and properly confesses (pp. 388-391), he should have found it possible to work harmoniously with those who have taken the trouble to discover the phenomena whose scientific recognition is in question. If only the same could be said of all who are psychologists by the grace of some academic institution!

F. C. S. SCHILLER.

Socrate. Par CLODIUS PIAT, Professeur à l'école des Carmes. Paris: Félix Alcan.

This is the first volume of a series entitled "Les grands philosophes," and it is written by the general editor, Dr. Clodius Piat. The prospectus of the series shows that it will be essentially Catholic in character. Apart from that, it is based on the view that there are in the history of philosophy certain dominating theories—*théories maîtresses*—each of which is prepared by a long series of efforts, and each of which embodies a fundamental idea. This, once it is known, gains an imperishable influence. A volume is, therefore, to be devoted to the initiator of each of these theories, and its chief aim will be to exhibit the "radiation" of his influence through the past and the future. The series is not intended to be "popular"; but the technical language of philosophy is not to be "abused," the object being *d'humaniser de rechef la plus humaine des sciences.* This will surprise those who imagine that Catholic teaching is indissolubly wedded to scholasticism.

The present volume gives us an opportunity of judging how the general editor conceives his task. To begin with, as might be expected of a writer who has had more than one work crowned by the French Academy, he has given us a fine piece of prose. It is no vulgar writer who can make a sentence like this: "Lorsqu'on pousse la philosophie socratique jusqu'au déterminisme, c'est qu'on fait l'histoire d'autrui avec ses propres idées" (p. 163); or this: "La plupart de leurs Vénus sont inconscientes; et c'est pour cette raison qu'elles n'excitent pas les sens; l'absence de pensée leur tient lieu de pudeur" (p. 172). The excellence of the style makes it the more to be regretted that Dr. Piat shares the inability of his countrymen to spell Greek names with any degree of correctness. To English eyes at least, such things as *Chronos* (p. 6), *Ménalippe* (p. 13), *Synope* (p. 22), *le Cosmos d'Amipsias* (p. 73), are blemishes. Also, it is not convenient to refer to Plato by means of "Ed. Tauchnitz, Leipzig, 1891".

Coming to the matter of the book, we are glad to find that Dr. Piat is free from the prejudice that Socrates was a self-taught genius who was only influenced by the great intellectual movement of the preceding age through his polemic against the Sophists. We are apt to forget that the Socrates we know best, the Socrates of Plato and Xenophon, is a quarter of a century older than that other Socrates who was pilloried by Aristophanes. It is all very well to say that Aristophanes was a comic poet, and it is quite certain that, if his portrait of Socrates had been accurate, it would not have been comic. But, on the other hand, if Socrates had always held himself aloof from cosmological speculations, the burlesque would have been too remote. As Chærephon has left no *Memorabilia* we cannot know exactly what Socrates was doing when he was forty and Plato and Xenophon were babies; but we may be sure that Aristophanes knew, and that his audience knew too. There is no reason, then, to doubt the very circumstantial account of his intellectual development which Plato puts into the mouth of Socrates in the *Phaedo*, and the ironical denials of the *Apology*, if read aright, confirm this view. It is quite in accordance with this that Dr. Piat accepts the interview with Parmenides and Zeno as a historical fact. I have shown elsewhere that the chronological difficulties that have been felt as to this are illusory,[1] and Dr. A. Patin has just come to the same conclusion on the same grounds.[2]

The account given of the teaching of Socrates is distinguished by lucidity and sanity. Dr. Piat is not one of those who regard Xenophon as more trustworthy than Plato, though he is quite able to distinguish what is specially Platonic from what is Socratic. Socrates was conscious of a divine mission, and Dr. Piat is prepared to believe with him that the δαιμόνιόν τι really was divine. This makes his interpretation all the more sympathetic. The end of life, he taught, was Happiness, that is, the possession of the Good and the Beautiful, which, rightly understood, are one with the Useful. Happiness is to be secured by right action, but "Goodness is knowledge," and there is nothing stronger than reason. The only way to make men better is by developing their reasoning power through dialectic. Here we have the paradox of Socrates and its solution. His interest was above all ethical and practical, but his activity was entirely dialectical and speculative. No one seems to value knowledge less for its own sake, and yet no one sought it more exclusively or in a more disinterested way. If only we *know*, he held, right action follows as a matter of course.

We see the effect of this when we look at the "radiation" of Socratic thought through the future; *Dialectic* did not, as Socrates had hoped, make men's actions better; it hardly influenced them at all. But it did what Socrates never meant it to do—it gave birth to Greek philosophy. The paradox of Socrates repeated itself on a larger scale, and the theoretical life gained the victory over the practical. The result was Scepticism in theory and Quietism in practice. Yet great ideas had been won, though they had no effect upon life. It was only when Christ appeared that a synthesis of those ideas began which gave them life and made them a principle of moral progress for the peoples. *In ipso vita erat.*

These words, with which Dr. Piat concludes, are as it were the motto of the series. Some will think otherwise as to the historical connexion, and many will suspect the apologetic tendency thus openly confessed. The tendency is certainly there, but I have not been able to discover that, in the present volume, it has led to any perversion of historical truth. On the contrary, I doubt very much whether a more adequate or convincing portrait of Socrates has yet been drawn.

JOHN BURNET.

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[1] *Early Greek Philosophy*, §§ 70, 129.

[2] *Parmenides im Kampfe gegen Heraklit* (Leipzig, 1899).

Les Philosophies négatives. Par Ernest Naville. Paris: Félix Alcan, 1900. Pp. 263.

In the Introduction M. Naville indicates his conception of philosophy and its method. The task of philosophy is to discover the ultimate unity of things, or the supreme principle by which the facts of experience can be explained. M. Naville seems to imply that the ultimate unity must necessarily be that of a single principle. The method of philosophy is simply the method of science in general—the method of observation and hypothesis. But before the task of philosophical construction is undertaken it is advisable to examine certain theories, which, if accepted, would deter us from the attempt or make us abandon it in despair. Such theories are those of Scepticism and the Eclecticism which is only Scepticism in another form, of Positivism and Criticism, which limit all knowledge to the sphere of phenomena, of Traditionalism (scepticism in the interests of Revelation) and Mysticism, which deny the possibility of any rational metaphysic, and, finally, of Dualism, which refuses to entertain the notion of an ultimate reconciliation. In a series of essays, written in a clear, interesting, and popular way, M. Naville deals with these theories in turn, defining them, illustrating them from history, and suggesting their defects and incoherences.

Perhaps the only essay that calls for particular notice is that on the Critical Philosophy, which is longer than the others and has a more special interest. To begin with, the inclusion of Kant among the "negative philosophies" is questionable, more especially as M. Naville fully recognises the constructive aspect of Kant's philosophy. Of the various reasons advanced for this inclusion the principal seems to be the dualism or chasm which Kant is supposed to have opened up between science and morality, and here M. Naville seems to share in the misunderstandings and exaggerations which are frequent in connexion with this subject. Kant's distinction between 'scientific' or theoretical knowledge and moral conviction is, after all, only the emphatic assertion of an obvious fact. "Il faut," says M. Naville, "Il faut une tension d'esprit continuelle pour se rappeler que les affirmations les plus positives en ce qui concerne le monde spirituel ont pour l'auteur une certitude morale qui ne doit pas être contestée, mais qui ne peut jamais se traduire en une certitude scientifique" (p. 176). But surely it needs no great "*tension d'esprit*" to remember that moral convictions are not the objects of a mathematical or physical demonstration. If one may judge from casual indications in this essay, M. Naville would seek to maintain in some form the method and conclusions of the old natural theology, and if that point of view be maintained it is naturally impossible to do full justice to Kant's thought. Nor can M. Naville's more special criticism of Kant's moral theory be said to be free from misunderstandings. Thus it is objected against Kant's ethical criterion that, *e.g.*, a Corsican would make the duty of revenge universal. But, of course, it is not the private opinions merely of the Corsican, but his logical consistency. that is in question. Again, Kant is censured because he fails to derive moral obligation from the claim made upon us by a higher power, in other words, by a divine legislator. But it is useless to bring against an opponent a theory which he has expressly rejected. It should be said, however, that, whether or not one agrees with M. Naville's criticisms, the essay is written in a no less clear and interesting way than the others.

H. Barker.

Critériologie générale, ou Théorie générale de la Certitude. Par D. Mercier. Paris: Félix Alcan, 1899. Pp. xii., 371.

In this volume, which forms the first part of a comprehensive work on the theory of knowledge, the author investigates the nature and conditions of certainty in general, leaving for a second volume the investigation of the particular certainties which are fundamental in the various departments of knowledge. It would naturally have been easier to appreciate the exact scope of the general investigation with the results of this second part in view, and indeed the propriety of such a division between the two parts is itself open to question. The present volume is divided into four books. The first is taken up with the general definition of the terms of the problem. Apart from a distinction, not very clearly stated, and perhaps not capable of being so stated, between logical and metaphysical truth, this task of definition is well done. It is, in fact, one of the merits of the work, that the author continually reminds us that the problem relates, not at all to the mere existence of firm convictions upon our part, but to the validity or objectivity of the certainties we feel. The author then proceeds to accept and emphasise the distinction between abstract propositions or principles ("*jugements de l'ordre idéal*") and propositions of fact, and, in accordance with the general plan of the work, the consideration of certainty in regard to the latter is relegated to the second volume, so that the distinction is evidently to be taken as final. The present part of the whole work thus resolves itself into an investigation into the conditions of the validity, as distinct from the mere existence, of intuitive principles. And this investigation, again, is subdivided into two parts or problems: first, the conditions of the objectivity of the judgment as the assertion of a relation between terms; and second, the reality or objective reference of the terms themselves—again a division which is open to question. The second of these two problems is that of the reality of universals, and its discussion in book iv. presents nothing very novel or interesting. The strength of the present volume lies in the discussion of the former problem in book iii., and in a preliminary discussion in book ii. of the proper attitude to be taken towards epistemological scepticism and dogmatism respectively. This preliminary discussion in particular is a very candid, careful, and interesting treatment of the question of epistemological assumptions. The main contention of book iii. is negative rather than positive. The author does not seek to show, as one would be apt to suppose from the not very happy title of the volume, that there is any single criterion to which all certainties can be referred. On the contrary, he argues very admirably that the certainty of knowledge cannot be derived from any external authority (as the "traditionalist" writers of his own Church would maintain), nor can it ultimately depend on a merely subjective assurance, nor finally can it be established by any indirect process of proof (Descartes); it must be derived from the objective evidence of the content known. But this objective evidence is apparently that of isolated intuitions.

The most obvious weakness of the book is a persistent and rather irrelevant polemic which the author seems to feel himself called upon to undertake against Kant. The value of the polemic may be judged from a few of M. Mercier's statements. "Il est plus vraisemblable," he says, referring to an opposite view, "que le spectacle des conséquences négatives auxquelles aboutissait la *Critique de la raison pure* aura effrayé le philosophe allemand et lui aura, après coup, suggéré la pensée de sauver de la ruine, par un expédient, les croyances pratiques dont le genre humain ne peut se passer et qui sont indispensables à son bonheur" (pp. 139-40).

Kant is said to place knowledge on a merely subjective basis: his ultimate synthetic judgments are "le résultat d'une impulsion naturelle aveugle" (p. 182). And it is thought to be a relevant criticism of Kant's phenomenalism to say that "si tout objet intelligible est une fiction de la pensée, la distance du roman à la science n'est elle point virtuellement supprimée?" (p. 334). In fact Kant is persistently interpreted in a merely psychological sense.

H. Barker.

Introduction à la vie de l'esprit. Par Léon Brunschvigk, Professeur agrégé de philosophie au Lycée de Rouen. Paris: Félix Alcan, 1900. Pp. 175.

It seems, since no ideal of progress can tolerate capitalism in mental wealth, highly necessary that all special research should be gradually incorporated in the common stock of knowledge. This task of popularisation is everywhere hard, but especially so in the case of philosophy.

Prof. Brunschvigk's little book has, therefore, some interest. It is an attempt, not unskilful, to make philosophy "*accessible au grand public*"; and the author is to be congratulated on the clear style and careful arrangement which have made it possible to give in short compass a sketch of certain metaphysical questions. Complete success could not be expected in such an undertaking; and the author sometimes succumbs to the difficulties of his attempt. The omission of all historical reference and the adoption of an abstractly individualistic starting-point do not really serve their purpose. Historical connexions must be supplied—either by writer or reader; otherwise positions of thought are often unintelligible. And the individualistic point of view is such a popular abstraction that, once admitted, it resists all reform.

It is no doubt partly due to the brevity of treatment that many problems are unsatisfactorily concluded. For instance, it is shown that sensations giving contact with reality are not in themselves easily distinguishable from mere imaginings; but this distinction is afterwards assumed. Again, the formation of 'first universals' is described under the misleading phrase, "*fusion des images*". The developed judgment (even disjunction and syllogism) is wholly identified with the judgment of quantity. In one place a form of the quantitative judgment seems to be elicited from sensation, since it is said—"*ce sont les mêmes expériences*" (touch, sight, etc.) "*qui fournissent la notion de grandeur*".

The theory of art is vaguely handled. But there are good general remarks on the educative function of art, as regards the appreciation of Nature; also on the disinterestedness of the æsthetic judgment, "*en suspendant l'effort de reflexion et la lutte pour vivre*". In discussing morality and religion the author struggles as best he may to transform the common individualistic standpoint. The identification of the intelligible and the good; and the other unparalleled perplexities of the moral problem, commonly bring philosophers to such straits that perhaps we need not be startled at Prof. Brunschvigk's final desperate assertion: "*Le mal est vaincu, car le mal existe, pour ceux-là seuls qui demandent aux événements la satisfaction de leurs desirs individuels*".

J. A. J. Drewitt.

Les Agnoscies: La Cécité psychique en particulier. Par Dr. VICTOR NODET, Ex-Interne des Hôpitaux de Lyon et de la Clinique Obstétricale. Paris: F. Alcan, 1899. Pp. 220. Price 4 fr.

A clear account of the subject in six chapters, including a short history of the various theories and discussions connected with it. The author's views are well-reasoned and never extreme, and for that reason call for no special comment. The book is rendered particularly useful by an account of one fresh case and an abstract of sixty-six others, collected from the scattered literature of the subject. A tolerably complete bibliography is added.

T. L.

Platon. Von WILHELM WINDELBAND (Frommanns Klassiker der Philosophie, ix.). Stuttgart, 1900. Pp. 190.

Prof. Windelband's *Plato* forms a most attractive addition to the useful series of popular sketches of typical philosophers in which it appears. It is brightly and lucidly written, well proportioned and frequently illumined by tellingly epigrammatic remarks. Originality and sensational novelty of interpretation are not, of course, to be looked for in a work of the kind, but Prof. Windelband's judgments are throughout distinguished by sound sense and scholarly appreciation. It is very refreshing to find that Prof. Windelband has a firm grasp of the fact that Plato was not a mere logic-chopping machine, but primarily a *man* and a social, political and religious reformer, whose ardent zeal has kindled a fire which, please God, will never be put out while evil persists and men survive to combat it. It is one of the many advantages of this recognition of Plato's personality that it largely dispenses with what would otherwise be the duty of interpreting him into absolute and rigid consistency with himself. For, as philosophers have shown no less than ordinary mortals, it is psychologically quite practicable to entertain in peaceful proximity notions which are logically quite incompatible. If anything, indeed, Prof. Windelband seems at times to go farther than is necessary in admitting discrepancies between the different strata of Plato's personality: he exaggerates, *e.g.*, the incongruity between Plato's theological asceticism and his philosophic idealism. For while either of these may easily lead to the corollary that the soul must train itself to overcome the cheats of an illusory world of appearances, nothing hinders the successful achievement of this from being treated as the revelation of man's true φύσις. Altogether Prof. Windelband makes a great feature of the religious side of Plato, which is connected with the Dionysian religion and the eschatology of the mysteries, Plato's great achievements in this connexion being, ethically, to moralise the mystical doctrines and, intellectually, to supply them with a philosophic foundation, whereby he became, says Prof. Windelband, the first *theologian.* The incongruity again between Plato's theological and philosophical accounts of the soul is perhaps overemphasised, the difficulties in both being mainly due to an absence of a definite conception of personality, without which no intelligible view of immortality can be propounded ; but there is no reason to suppose that these difficulties would appear formidable to Plato or his contemporaries. In his otherwise excellent account of the theory of Ideas, Prof. Windelband hardly gets hold of what is probably the true key to the situation, *viz.*, the fact that whereas to us, as to Aristotle and to nearly all other philosophers, the phenomenal world is the *explicandum*, and the ideal theory a mode of explaining it, Plato had, rightly or wrongly, persuaded himself that the

Ideal world was the real world, that the phenomenal world was the *explicandum*, and that the real *crux* was to explain how the Idea became tarnished and dimmed in its multiplied reflexions in a spatial 'notbeing'. Under the circumstances it is not perhaps surprising that Prof. Windelband should make little way with the problem of the *Parmenides*. Sometimes, indeed, he seems disposed to give it up by decreeing the unauthenticity of the dialogue, and yet he fully feels the unanswerable cogency of the literary grounds for asserting its authenticity. But, then, who has ever made much out of the *Parmenides?*

F. C. S. SCHILLER.

Das Lokalisationsgesetz : Eine psychophysiologische Untersuchung. Von I. USCHAKOFF. I. Leipzig : Otto Harrassowitz, 1900. Pp. ii., 205.

The author wishes to formulate and prove a '*Hauptgesetz*' for the relation of '*Psychomes*' and voluntary movements to cortical nervous processes. '*Psychom*' is suggested by him as 'a common simple term' for all phenomena of consciousness, 'psychosis' having a double meaning. The first chapter deals shortly with the finer structure of the nervous system, the nature of nervous processes, etc. In the second chapter the law is formulated—"Sensory *psychomes*" (including perceptions and ideas) "or voluntary movements of more or less qualitative unlikeness" that occur in one individual at different times "are based on nervous processes in more or less different neuron-complexes, quite disparate ones on processes in quite disparate complexes". But when the qualitative unlikeness is very slight, the difference of neuron-complexes cannot be definitely asserted. In cases of qualitative sameness the neurons concerned are more or less, and in cases of qualitative and quantitative sameness, mainly, if not quite, the same, so far as perceptions, ideas, and voluntary movements are concerned ; and this is also true of auditory sensations.—The author then brings together the varying views of many authors, and though he cautiously refuses to give a definite opinion on most special questions, he finds the usual arguments which go to support his law rather unsatisfactory. Accordingly he attempts in the third chapter to base it upon certain general considerations, deductions chiefly from the phenomena of memory and habit. Here he shows at times a tendency to beg the question, and it is not easy to discover the superiority of his general arguments over those based upon actual research. Various special questions are to be dealt with in a second part.

T. L.

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L. Clerici, *Le Idee economico-sociali di Fichte*, Modena, Archivio Giuridico, 1900, pp. 71.

IX.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. ix., No. 2. **E. B. MacGilvary.** 'Society and the Individual.' [Individualism makes society a mere compound; communism makes the individual a mere tool. We substitute for them the 'society of persons,' the view that the social unit is the *socius*. Such a view reconciles the antithesis; is borne out by the psychogenesis of the self; and explains our need of social confirmation of opinions. Applications: the seat of sovereignty is both state and individual,—there is reciprocity of dependence; natural rights of the individual go hand in hand with the social status in which they are vested; justification of capital punishment.] **A. K. Rogres.** 'The Hegelian Conception of Thought (I.).' [For Green, reality tends to become nothing but a system of relations. This may work for objects; it does not work for selves. Let us then see what 'thought' means. It may mean the process of thinking; or 'thought' as distinct from 'perception' within this process; or abstract thought, relations and concepts. Psychological examination of the relation between thinking and perceiving; transition to the thought-world of the Hegelian. "Hegelianism as such is based upon the essential convertibility of existence for knowledge and existence for experience; so that the universe is in no sense a reality which is brought home to us by a thought distinct from it, . . . but is in its only possible meaning immediately present in the very thought experience which constitutes our lives." All that is true in this is that, if we are to have a good theory of the nature of things, we must admit the real application to them of certain fundamental categories which our explanatory thinking employs.] **A. Lefevre.** 'Self-love and Benevolence in Butler's system.' [In these two principles, Butler is "simply recognising the fundamentally rational character of the egoistic and altruistic tendencies in human nature". By the conception of a social self and common interest, he transcends the dualism of interested and disinterested action. Self-love and benevolence are methodologically distinguished; really, they are synthetised in one general principle of our nature.] Reviews of Books. Summaries of Articles. Notices of New Books. Notes. Vol. ix., No. 3. **D. G. Ritchie.** 'Nature and Mind: Some Notes on Professor Ward's Gifford Lectures.' [(1) Physical. "To make the exactest of sciences impossible seems a strange way of making rational theology possible. . . . The existence of a pervading intelligence in the universe is rather proved by the exactness of the sciences of quantity than by a doubt as to their truth." (2) Biological. Ward's teleological factors of evolution "do not seem clearly to prove mind in the individual animal; or else they will prove soul in everything, and the distinction between living and dead matter disappears". (3) Psycho-physics. Reconstruction of parallelism, "more on the lines of Leibniz than of Spinoza". Explanation in natural science is confined to the giving of material causes. The universe is both mechanical and teleological. (4) Ward's refutation of dualism does not get over "the gap he himself has made between living experience and conceptual experience".] **W. Fite**. 'The Associational Conception of Experience.' [Associationism is now opposed to apperceptionism, the antithesis having come about by the introduction into psychology of the concept of attention. The apperception theory declares "that knowledge begins with a tendency to view the world as a harmonious system, and that it is the operation of this tendency which brings out the differences called 'sensation elements'". To meet the facts, the associationist must couch his theory in terms of physiology, and must substitute sense-stimuli for sensations in his notion of 'experience'.] **A. K. Rogres.** 'The Hegelian Conception of Thought (II.).' ["No object is ultimately conceivable except as it forms an element in a conscious experience; . . . what we know as the external world of related objects is, in its final truth, such an objectively constituted experience, of which we get the type in our own lives; . . . the categories which we apply to objects are only to be understood . . . by reference to this interpretation of what the nature and activities of things really consist in." This leaves behind the peculiar claims of Hegelianism as a method. As for the Absolute and the time-process, "time, in so far as it presents antinomies, is a product of thought, and as such has no place in the absolute life, which finds no need for thinking in the ordinary sense".] Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

PSYCHOLOGICAL REVIEW. Vol. vii., No. 2. **J. Dewey**. 'Psychology and Social Practice.' [There are certain psychological presuppositions controlling educational theory and practice: (1) the assumption of identity of mental attitude in child and adult, which overlooks the growth of specialised habits and aims in the man, and the paramountcy of questions of growth in the child; (2) the assumption of difference where there is really identity, *i.e.*, in the motives which govern attention. These must be set aside. As for mechanism *v.* personality, life functions must be stated in terms of objective mechanism if we are efficiently to direct them. So in general: a reflective (as distinct from a customary) morality implies an attempt to get the method or mechanism by which the end is reached; it and the demand for psychological statement were born and have grown together.] 'Proceedings of the Eighth Annual Meeting of the American Psychological Association, Yale University, December, 1899.' **G. S. Fullerton**. 'The Criterion of Sensation.' [The criterion offered by psychology is ultimate only for convenience of discussion within a particular field of work. The contradiction between the doctrine of representative perception and the assumption that we directly perceive a real world, final for psychology, is not final for epistemology, to which the psychologists may refer it for resolution.] Discussion and Reports. **A. H. Lloyd.** 'Physical Psychology.' ["Physical psychology is concerned with the substitutes or indirections for mind that appear in all the 'physical' sciences, in chemistry, physics and mathematics." (1) Opposites must individually reproduce their opposition, so that there are forced into these sciences certain abstractions or disguises for mind; (2) conservation and infinity and plenitude and motion bear witness to the presence of intension, of the unity and indivisibility of mind, in the physical world.] Psychological Literature. New Books. Notes. Vol. vii., No. 3. **C. L. Morgan.** 'On the Relation of Stimulus to Sensation in Visual Impressions.' [Deals especially with the relation of sensation to stimulus in the cases of white, red and blue on a black background. The law indicated is that "equal increments of sensation are produced by increments of stimulus in geometrical progression".] **L. M. Solomons.** 'A New Explanation of Weber's Law.' ["The explanation is to be sought neither in the nature of comparison, nor in the quantitative relations between stimulus and brain reaction, but in the well-known fact of the variability of brain activity under identical stimuli." "Two stimuli must vary by more than the range of this variability for their difference to be perceived."] **M. Meyer.** 'Elements of Psychological Theory of Melody.' [The theory that the basis of all music is the diatonic scale (24, 27, 30, 32, 36, 40, 45, 48) is fundamentally wrong. One of its chief errors is the exclusion of the number 7. Æsthetic laws of melodies composed of two notes only: the 'relationship' of tones considered as an elementary psychological fact. The complete musical scale is represented by the infinite series of all composites of the powers of 2, 3 and 7. Analysis of certain complex melodies, with comparison of the new and the old theories.] **E. A. Kirkpatrick.** 'Individual Tests of School Children.' [Counting aloud rapidly, making vertical marks rapidly, sorting cards into piles by oral direction, sorting cards by visual impression, naming ink spots. "Fifty-seven per cent. (of the children) were graded just the same by the combination of all the tests as by the teacher." Psychogenetic norms are needed.] Discussion and Reports. **R. MacDougall.** 'A Pneumatic Shutter for Optical Exposures.' **H. M. Stanley.** 'Remarks on Time Perception.' [Critique of Stout (MIND, Jan., 1900). Distinction between objective and subjective time.] Psychological Literature. New Books. Notes.

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. xi., No. 2. **W. S. Small.** 'An Experimental Study of the Mental Processes of the Rat.' [Six groups of experiments, with puzzle-boxes containing food, upon the origination and integration of contiguous associations; the persistence, variability and composition of the associative process; recognition, discrimination, imitation; and individual differences. Points of interest in the results are: the great importance of the first success; the persistence of wild traits and useless motor habits (digging, nest-building as against satisfaction of hunger, scurrying in the midst of a definite task); the permanence of association in spite of fortuitous origination; the low level of imitation; etc. Tentative analysis of the task-consciousness are given, but are too detailed for summary. Tables of time values are appended.] **G. P. Watkins.** 'Psychical Life in Protozoa.' [(1) The compounding of minds: critique of James. Primitive consciousness and its survival value. (2) The problem of the protozoan mind: criterion of the presence of consciousness. "Symbolisation of some environing circumstance . . . may be the distinguishing attribute of mentality. . . . Learning by experience, and the alterableness of action that this implies, furnish the best objective criterion of mentality. . . . There would be rectification of action." But lack of mentality is not proved by *absence* of evidence for learning by experience. (3) Critique of work so far done: Binet, Verworn, Hodge and Aikins, Jennings.] **G. E. Dawson.** 'Psychic Rudiments and Morality.' [Attempt to trace, in psychogenesis, the conditions of 'immorality, vice, crime, sin'. They are as follows: (1) "The temporarily incomplete elimination of qualities belonging to a lower stage of development" (children, whose moral nature is not yet adjusted to adult life, adults with delayed [not arrested] development through unfavourable environment). (2) "The total arrest of the eliminative process, leading to the persistence of qualities that should normally disappear" (the delinquent classes generally). (3) "The hypertrophy or disease of abnormally persistent qualities, leading to an abnormal pathological condition of the moral nature" (dipsomania, kleptomania, sexual perversion, etc.). Educational suggestions.] **E. B. Titchener.** 'Minor Studies from the Psychological Laboratory of Cornell University,' xix. **W. B. Secor.**

'Visual Reading: a Study in Mental Imagery.' [The auditory element is much more persistent in reading than is articulation; both alike are rather aids than necessary elements; their prominence depends upon the mental type of the individual. It is possible to read without articulation and audition.] **E. C. Sanford.** 'Minor Studies from the Psychological Laboratory of Clarke University,' xv.-xvii. **H. S. Curtis.** 'Automatic Movements of the Larynx.' [Such movements occur, and are far from uncommon: *cf.* Lehmann and Hansen.] **C. C. Stewart.** 'Zoellner's Anorthoscopic Illusion.' [General explanation in terms of underestimation of quick and overestimation of slow movements; subsidiary factors are movement after-image, indirect vision.] **G. E. Partridge.** 'Experiments on the control of the Reflex Wink.' [Hammer strikes on pane of glass before the face. Two types of winks control: nervous, with strong reflex tendencies, but good inhibition; stolid, fearless and inactive.] **E. B. Titchener.** 'The Equipment of a Psychological Laboratory.' [Suggestions towards an 'ideal' psychological laboratory; inventory of the appliances of that of Cornell University.] Psychological Literature. Book Notes. Notes and News. Books received.

REVUE PHILOSOPHIQUE. July, 1900. **B. Bourdon.** 'La perception des mouvements par le moyen des sensations tactiles des yeux.' [Recounts various experiments and observations which have led the writer to believe that the eyelids play an important part in the visual perception of movements.] **L. Dauriac.** 'Criticisme et Monadisme.' [A critique of *La Nouvelle Monadologie*, by MM. Ch. Renouvier and L. Prat.] **C. Bos.** 'Les Croyances Implicites.' [Without certain implicit beliefs, action, perception, memory, feeling, would be impossible. Such fundamental beliefs are, (1) belief in the reality of one's self (involving belief in the reality of other men, and of an external world); (2) belief in the reality of the present (involving belief in the reality of the past and future).] Revue générale. **Blum.** 'Le Mouvement Pédologique et Pédagogique.' Analyses et comptes rendus. Revue des Periodiques Étrangers. Correspondance. August, 1900. **L. Bourdeau.** 'Cause et Origine du Mal.' [Evil is a limitation and diminution of life. Hence its cause must be sought among the laws which govern life. All finite living beings are constituted such in virtue of a double principle of association and individuation. Each is composed of more simple beings, co-ordinated into a whole and each, in its turn, appears as a constituent element in a larger whole. Evil arises from conflict either between the various members of a whole or between the members as such and the whole.] **Dr. Santenoise.** 'Religion et Folie.' [All religion is a form of madness. The characteristic of "*conceptions délirantes*' is falsity. Errors are (1) purely intellectual; (2) intellectual and affective. All "*conceptions délirantes*" are all the errors of the latter class. Religious conceptions find their place in this class.] **Palante.** 'Le Mensonge de groupe.' Analyses et comptes rendus. Revue des Périodiques Étrangers. September, 1900. **Dugas et Riquier.** 'Le Pari de Pascal.' [A critical inquiry into the logical validity of Pascal's 'wager' on the existence of God.] **R. de la Grasserie.** 'L'individualisme religieux' [The religious individualist is characterised by (1) his rejection of all intermediaries, whether human or divine, between himself and God; (2) by solitary worship; (3) by a strictly monotheistic conception of the Deity.] **Baron Mourre.** 'Les causes psychologiques de l'Aboulie.' Analyses et comptes rendus. Revue des Périodiques Étrangers.

REVUE DE MÉTAPHYSIQUE ET DE MORALE. 8e Année, No. 4. **Ed. Goblot.** 'La finalité sans intelligence.' [All teleological determination consists in a selection among alternatives equally possible apart from the condition which determines the selection. In the case of conscious selection the will is the determining condition. In the case of natural selection it is the struggle for existence.] **G. Sorel.** 'La système des Mathematiques.' [Shows the interdependence of the different branches of mathematics as all arising out of the endeavour to deal with physical problems.] **L. Dimier.** 'Prolégomenes a l'Esthétique.' [Distinguishes a beauty of reference and inspection. The first belongs specially to imitative art, and is due to the nature of the object represented: the second is due to the immediate presentation of the artistic work itself. The whole function of the imitative artist is to imitate as closely as he can. The beauty of his work is due to the transformation which the object necessarily undergoes owing to the nature of the means by which it is reproduced. There is an absolute beauty in everything.] Études critiques, etc.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xxii., Heft 5. **L. Steffens.** 'Experimentelle Beiträge zur Lehre vom oekonomischen Lernen.' [An inquiry into the psychological conditions of economical learning-by-heart: 'economical' = 'time-saving'. The ordinary or natural way of learning-by-heart is that of partial repetitions. Experiment shows, however, that for the material used (stanzas of poetry, nonsense syllable series), and with the test employed (repeating once or twice without mistake), total repetition is quite considerably better than partial. It has the advantages (1) of association by indirect consequence (association between members of different sections), and of the influence of absolute position, and (2) of constancy of the number and temporal distribution of the repetitions. A final chapter discusses the most advantageous mode of regular distribution of repetitions over a constant time, and deduces and proves the law that "if two associations are of different strength, the time-saving value of the weaker association (absolutely regarded) decreases the more slowly with lapse of time, provided that there is no difference of age between the two associations to condition an opposite course".] **T. Lipps.** 'Zu den "Gestaltqualitäten".' [Cornelius' idea of similarity-groups leads him into a circle. Really, the similarity-consciousness is never grounded upon conscious contents, but always upon the (unconscious) psychical processes underlying consciousness.] **M. Sachs.** 'Ueber den Einfluss farbiger Lichter auf die Weite der Pupille.' [Critique of Abelsdorff and claim of priority.] Literaturbericht. Entgegnung. [Berliner against Hansemann, concerning the drawing of Helmholtz' brain.] Berichtigung. [Correction of misprints by Schrenck-Notzing.] Bd. xxii., Heft 6. **K. B. R. Aars.** 'Die Erwartung.' [The qualitative peculiarity of expectation is an 'associative mark,' comparable with the local sign of space perception and the 'past'-mark of memory. In other words, expectation depends (not on association, but) on the existence of associative paths or lines, of which the given idea is the centre. The actual occurrence and the expected occurrence are not identical; but we are able, by memory, to rehabilitate the process of fusion between the associative mark and the actual occurrence: in real life, the fusion takes place only after the mark has disappeared. Still, the associative mark and the consciousness of unity as one looks back upon the process of expectation fulfilled are not two ultimate moments: the essentials of the whole process are given with the expectation mark. Critique of Lipps and Witasek; expectation and the question (inquiry); connexions of expectation with volition; relation of expectation to recognition Höffding's quality of familiarity).] **T. Lipps.** 'Aesthetische Einfühlung.' [Pleasure on the ground of sympathy is pleasure in an object which I endow with life or mind, in which I find a reflexion of my personality. Two stages may be distinguished: simple sympathy and cosentient sympathy (*sympathische Einfühlung*). (1) We begin with 'practical' sympathy—the instance of the sight of an angry man. Here I find, in an external object, a mode of my own self's feeling; modified, it may be, but recognisable; and, above all, given in a context, implying a personality. So I pass to cosentient sympathy: the anger becomes actual in me; it has at once the character of objectivity and of activity. (2) The way from practical to æsthetic sympathy is the way from the 'mark' or 'indication' to the 'symbol'. I have in æsthetic sympathy a self that transcends my every-day self; a realisation of self, enhanced and made free by the concinnity of outer constraint and inner spontaneity; and a realisation that is freed from the context of the actual world and thus is purified and yet further enhanced. The peculiar qualitative colouring of pleasure in the feeling of æsthetic sympathy is 'depth'. (3) Sympathy is undoubtedly set up by association; but in so far as the fusion-product has the two characteristics of objectivity and of own-activity, and this 'constrained spontaneity' has attaching to it the unique feeling of freedom, sympathy is itself an irreducible fact. (4) Illustrations from spatial forms (reply to C. Lange's criticism), and (5) from rhythm. (6) Some deny that sympathy depends (or depends entirely) upon association. This is true, if association means the mental connexion of individual psychical processes; untrue, if one extends association to cover general modes of psychical manifestation (the psychical processes which underlie conscious content).] **G. Abelsdorff.** 'Ergänzende Bemerkungen zu meiner Abhandlung über die Aenderungen der Pupillenweite durch verschiedenfarbige Belichtung.' [Reply to Sachs.] Literaturbericht.

PHILOSOPHISCHE STUDIEN. Bd. xv., Heft 4. **F. Werner.** 'Beiträge zur Collectivmasslehre.' [Gauss' law of the distribution of errors has been applied by the calculus of probability not only to errors proper, but to all sorts of 'accidental' phenomena: *cf.* the probability or distribution curves of Quetelet and Galton, and the variation curves of Ludwig. This extension of application demands an extension on the formal side of expression. Such extension, suggested by Fechner's Collectivmasslehre, and by the recent articles of Lipps and Bruns (*Phil. Stud.*, xiii., 579; xiv., 339) is given, with numerous illustrations, in the present paper.] **E. Duerr.** 'Die stroboskopischen Erscheinungen.' [Increase of the number of different stimuli in successive periodical retinal stimulation is unfavourable to fusion. Under certain conditions of intermittent stimulation, the stimulus which is intrinsically best fitted to attract the attention determines the apparent brightness of the total image (so, in part, Brücke). A fairly large section of a movement may be cut out, without the gap being remarked, if the time of interruption be short; the explanation is to be sought in the conditions of retinal excitation and of eye-movement. Stroboscopic phenomena (apart from movement) are fully explained by the laws of intermittent retinal stimulation (Marbe).] **W. Hellpach.** 'Die Farbenwahrnehmung im indirecten Sehen.' [An investigation by means of pure spectral colours (gelatine sheets), with dark adaptation; the method of minimal changes in a centripetal direction was employed. Four zones are found: an outer complementary, a colourless, a like-coloured, and a same-coloured. These results are so surprising, and the author's theoretical conclusions so radical, that the full table may be printed here:—

Stimulus.	Compl. zone.	Colourless zone.	Like-col. zone.	Same-col. zone.
Red	Bluish	White	Orange	Red
Orange	Bluish	White	—	Orange
Yellow	Bluish	White	Orange	—
Green	Yellow-reddish	White	Bright yellow	Green
Blue	Yellowish	White	—	Blue
Violet	Yellowish	White	Blue	Violet
Purple	Yellow-greenish	White	—	Purple

It is hardly likely that these results (and especially that which makes yellow invisible in indirect vision) will be verified by future observers.] **W. Wundt**. 'Zur Technik des Complicationspendels.' [Description of the instrument, and directions for its use: see MIND, 1899, p. 564.]

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE. Jahrg. xxiv., Heft. 3. **Eugen Pasch.** 'Ausgangspunkte zu einer Theorie der Zeitvorstellung (Schluss).' [Historical and critical survey of the principal theories of time.] **C. M. Giesler.** 'Die Identificirung von Persönlichkeiten.' [Identification of persons depends on three kinds of reproduction. (1) The reinstatement of the content of previous sense-presentations; (2) revival of emotional states; (3) recall of the groups of ideas connected with the special situation in which a person has been previously met with. The last kind of reproduction is primarily the revival of an "intellectual mood" (Stimmung). It is maintained that the three kinds of reproduction operate in the order in which they are here named.] **T. H. Lindner.** 'Beharrung und Veränderung als Geschichtliche Kräfte.' [The persistence of established modes of social life is in the main only disturbed by external or quasi external influences. Among these must be reckoned the influence of individuals—great men. After disturbance the old order tends to reassert itself in a modified form.]

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE. Neue Folge. Bd. vi., Heft 3. **E. von Hartmann.** 'Zum Begriff des Unbewussten.' [Distinguishes the various meanings of the word "unconscious". A, The unconscious in an epistemological sense, including (1) what is simply unknown; (2) possibilities of perception not realised at the time; (3) the unknowable. B, The physical unconscious, including (1) privation of that consciousness which an individual is capable of possessing—the unconsciousness of dreamless sleep or a swoon: (2) the incapacity for any kind of consciousness such as is ordinarily attributed to inorganic matter; (3) physiological conditions of a stationary kind; (4) those physiological *processes* which have no correlate in consciousness. C, The psychical unconscious including (1) the absence of a special kind or form of consciousness, *e.g.*, the indistinct or unnoticed, or that of which we are conscious without being aware that we are conscious of it; (2) the *relatively* unconscious, including all "split off consciousness"—all experiences correlated with physiological process in an individual organism, but not entering into the "central consciousness"; (3) the absolutely unconscious. This last includes the activities which generate consciousness and its contents, and the subject which is the agent of these activities. V. Hartmann notes that in his *Phil. des Unbewussten* he has not distinguished with sufficient clearness the relatively from the absolutely unconscious.] **E. Mally**. 'Abstraktion und Aehnlichkeits-Erkenntniss.' [Criticism of Cornelius' theory according to which Abstraction depends on the formation of different qualitative series due to perception of resemblances in various respects, so that, for example, to consider the loudness of a sound in abstraction from other character is to refer the sound to the series based on comparison in respect of loudness. Mally objects, (1) that if the theory were correct every predication concerning simple objects would be a judgment of resemblance—a result hard to reconcile with actual experience; (2) the theory presupposes that association by similarity plays a part in our mental life far more extensive and important than we are justified in assuming; (3) according to the theory an appropriate qualitative series must be formed before abstraction can begin; but formation of such series already involves abstraction; (4) supposing the qualitative series to be already formed, it cannot discharge the function ascribed to it unless it is itself apprehended under the form of a general conception.] **W. Freylag.** 'Ueber Ranke's Geschichtes-Auffassung und eine zweckmässige Definition der Geschichte.' [Criticism of Windelband and Rickert's view of History as science of the individually determinate as opposed to nomothetic sciences. Freylag sums up his own view as follows: It is convenient to distinguish a wider and a narrower concept of history. In the wider sense History deals with human *society* in all its aspects and phases, and also with the individual in so far as he presents novel features and is not merely an example of a type. In the narrower sense History deals with social phenomena, which are too complex to be reduced to a systematic scheme of laws or rules; but it is precisely these phases and aspects of social life in which the interaction between the *individual* and society is of predominant importance.] **Ad. Müller.** 'Die Metaphysik Teichmuller's.' [Expounds Teichmüller's Doctrine of Time and Space.] **Th. Lipps.** 'Dritter ästhetischer Literaturbericht.' [Deals with the recent work of Külpe, Groos, Elster, Lipps and others.]

PHILOSOPHISCHES JAHRBUCH. Bd. xii., Heft 4. **C. Gutberlet.** 'Zur Psychologie des Kindes.'—I. [This, the first of two articles, is little more than a summary (with occasional criticisms) of modern researches, especially those of Baldwin, about children's discrimination of colours before they can speak, about the time when right-handedness begins to develop, the first beginnings of writing and drawing, and the origins of the social feelings. The writer, doing full justice to the cleverness of the experiments made, denies certain inferences drawn from them.] **J. A. Andres.** 'Die Nachwirkung von Gundissalinus "De Immortalitate Animae".'—II. [The writer is of the opinion of Bülow, Gundissalin's editor, that Scholasticism dates, not from William of Auvergne, but from Gundissalin, and he quotes several texts to show that the former follows him in many places, as also Rupella, St. Bonaventura, and Albertus Magnus.] **J. Straub.** 'Kant und die naturliche Gotteserkenntniss.'—III. [This second and last paper deals with Kant's view of the cosmological and of the teleological argument, which he contends is a pure misrepresentation of both, caused by Kant's false doctrine of causality as a synthetical *a priori* judgment. Thence it came that he attempted to obscure proofs clear as the light of the sun.] **J. Mausbach.** 'Zur Begriffsbestimmung des sittlich Guten.' [In this concluding article the author continues to debate with Dr. Cathrein on the point whether man's moral goodness, according to St. Thomas, consists in action according to the laws of the universe or to God's will. He decides for the latter, with the quotation: *Bonum universi non est ultimus finis hominis, sed ipse Deus.*] Bd. xiii., Heft 1. Before the great division into Thomists and Scotists took place there were already differences of opinion amongst scholastic philosophers. Some were thoroughly loyal in their adhesion to Aristotle, and at the head of these was St. Thomas Aquinas. Others attached much weight to certain leading Platonic and Neo-platonic ideas, and were even disposed, where this was possible, to give to Aristotle a Platonic interpretation. St. Bonaventure was, to some extent at least, a representative of this latter school. **Ziesché** ('Die Lehre von Materie und Form bei Bonaventura') shows the influence which Neoplatonic thought exercised on St. Bonaventure's theory as to matter and form. **Dr. Gutberlet** ('Zur Psychologie des Kindes (Schluss)') discusses Baldwin's theory of psychological development. Baldwin, while avoiding many of the arbitrary assumptions which disfigure the theories of Bain and Spencer, makes many arbitrary assumptions of his own. These assumptions are very marked in his treatment of 'Accommodation,' 'Gewohnheit,' etc., etc. But Baldwin must at least have credit for excluding the element of "chance" from his theory, and for so explaining the process of development as to leave room for the operation of a higher Power. According to **Dr. Beck** ('Die Lehre des hl. Hilarius von Poitiers (und Tertullian's) über die Entstehung der Seelen'), St. Hilary, while insisting that God is the principal author of man's origin, was of opinion that parents are the immediate cause of both the soul and the body of their offspring. Reasons for ascribing this opinion to St. Hilary are the occurrence in his writings of such statements as: "Man is born with soul and body through the agency of that nature which God has given to us," and the fact that in many other respects St. Hilary was a disciple of Tertullian, who undoubtedly maintained this opinion. Tertullian, however, is guiltless of the very material account of the soul's origin that has sometimes been ascribed to him. Although St. Augustine has left no distinct treatise on sensitive knowledge, there are, as **W. Ott** maintains ('Des hl. Augustinus Lehre über die Sinneserkenntniss), references enough to this subject scattered through his writings to sufficiently indicate his mind. However different his terminology may be, his theory substantially agrees with that of the Scholastics And, like the Scholastics, he contends that sense and intellect are separated by a chasm which cannot be bridged over. Bd. xiii., Heft 2. **Geyser.** 'Die erkenntnisstheoretische Grundlage des Wissens bei Cartesius.' [In this, the first of two articles, the writer expounds the foundations of Descartes' system, and his methodical doubt even of the first principles of reason. He then begins to point out the inconsistency of the *Cogito ergo sum*, which depends upon the principle: Who thinks cannot be non-existent so long as he thinks.] **Engel-Kemper.** 'Die Lehre Saadia Gaon's über die "Aufhebung des Gesetzes".' [This is also the first of two papers. It is a study on the Jew Saadia Gaon's great theological work, the *Amânât*, written in Arabic: it contains a summary of the work, and a full translation of chapter iv. of tractate iii., which is one of the most remarkable in the whole work.] **Ott.** 'Des hl. Augustinus über die Sinneserkenntniss.' [Augustine seems to think that the soul is united to the body by means of the subtlest amongst the elements. His views as to the truth and reality of the knowledge we derive from the senses coincide with those of Plato.] **Gutberlet.** 'Zur Thierpsychologie.' [This paper, starting from the standpoint that brutes are neither intelligent beings nor mere machines, gives full details of the experiments recently made upon ants. The question is: Have ants anything more than reflex nervous activity? The conclusion is that they have, but only sense-impressions, without anything of the higher qualities manifested by vertebrates.]

X.—NOTES.

INTERNATIONAL PSYCHOLOGICAL INSTITUTE.

A movement has been set on foot for founding an institution to be called the International Psychological Institute. The list of patrons includes a number of well-known names, and the programme drawn up by Dr. Pierre Janet gives the following account of the objects aimed at :—

"The Society will collect endowments, donations, annual subscriptions, etc., on the sole condition of employing them for the development of psychological science. The resources thus collected by the Society will be used by the Committee of Management to establish an International Institute of Psychical Science—a Psychical Institute destined to become a centre to which all inquirers and researchers, irrespective of nationality, may turn for help and advice.

"According to circumstances, and to the development attained by the Society establishing it, this Institute will pursue the following aims :—

"1. To collect in a library and museum all books, works, publications, apparatus, etc., relating to psychical science.

"2. To place at the disposal of researchers, either as gifts or as loans, according to circumstances, such books and instruments necessary for their studies as the Institute may be able to acquire.

"3. To supply assistance to any laboratory or to any investigators, working singly or unitedly, who can show that they require that assistance for a publication or for a research of recognised interest. This function, which has been fulfilled so usefully by the Société pour l'Avancement des Sciences, in relation to the physical sciences, must also be discharged by the new Institute in relation to mental science.

"4. To encourage study and research with regard to such phenomena as may be considered of sufficient importance.

"5. To organise lectures and courses of instruction upon the different branches of psychical science.

"6. To organise as far as means will allow, permanent laboratories and a clinic, where such researches as may be considered desirable will be pursued by certain of the members.

"7. To publish the *Annales de l'Institut psychique international de Paris*, which will comprise a summary of the work in which members of the Institute have taken part, and which may be of a character to contribute to the progress of the science.

"This sketch of the aims of the organisation is but an outline, and will be subject to modification by the Society of the Psychical Institute, the institution of which must be our first undertaking."

DEATH OF PROF. SIDGWICK.

With profound regret we have to record the death of Dr. Henry Sidgwick, on the 28th August, at Terling Place, Essex. An obituary notice will appear in our next.

THE CHAIR OF MORAL PHILOSOPHY AT CAMBRIDGE.

We have to announce that Prof. Sorley of Aberdeen has been elected to the Chair of Moral Philosophy at Cambridge, as successor to the late Prof. Sidgwick.

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